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THE BRITISH
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JANUARY, 1909.

ON MULTIPLE INFLAMMATORY NODULES OF THE HYPODERM.*

By ARTHUR WHITFIELD, M.D., F.R.C.P.

Multiple inflammatory nodules of the hypoderm are not among the commonest of affections of the skin, but they occur with such frequency and prove so resistant to treatment that they occupy a position of some importance.

Among the well-known causes of these subcutaneous nodules syphilis, of course, occupies the first place, but though there may be difficulty in diagnosis when a case is seen on one or two occasions only, close observation is, I think, always sufficient to enable a competent observer to establish the syphilitic nature of the disease, and I therefore propose to exclude syphilitic gummata from my consideration.

There then remains a somewhat confused mass of material which is generally grouped under the heading of Erythema induratum or Bazin's disease, and it will be my endeavour to distinguish again between certain types of nodular disease of the hypoderm, which, though clinically somewhat alike, have, I believe, no ætiological relationship with one another.

The clinical description and course of symmetrical nodose tuberculosis of the hypoderm (true Erythema induratum) are so well known that I shall not trespass on your time by giving a detailed description of them, but will content myself with reminding you of the facts that the undoubtedly tubercular cases occur most usually in girls from the age of thirteen to twenty-five, that the nodes are of slow growth and almost painless, that they subside only very slowly when the patient is placed in the horizontal position, that they commonly ulcerate, and that they are extremely resistant to treatment. I will now pass on to the cases which form the basis of my investigations of types which are not of tubercular origin.

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* Read at the Dermatological Section of the Royal Society of Medicine, Thursday, November 19th, 1908.

Case 1.—The description of this case was given in my first paper on the subject in the *American Journal of Medical Sciences* for 1900. The patient was a married woman, aged 37 years. There was some history of consumption in the family, and a history of severe rheumatism at the age of fifteen years in the patient herself. The circulation was poor with a rather marked tendency to acro-asphyxia, but no definite cardiac lesion could be detected. There was a good deal of dyspepsia and the patient was extremely neurotic. When first seen the nodules were of nine weeks' duration and extremely painful, but they subsided very rapidly on rest in bed in the hospital, new ones recurring from time to time when she was up, but none ever giving rise to ulceration. The nodes were exactly like those of Bazin's disease to the sight and touch, but the extreme pain was a peculiar feature. They were pinkish in colour and were situated on the legs below the knees, one large infiltrated patch being found immediately above the internal malleolus on the right leg. Some nodules were excised, histological and bacteriological examinations were carried out, and an inoculation of part of the tissue into the subcutaneous tissue of a guinea-pig was made for me.

The results of the inoculation and bacteriological examination were negative, and the histological examination showed a marked inflammatory change of the whole substance of the walls of the small veins implicated in the nodule.

The patient was under observation for a long period after leaving the hospital, and on one occasion was shown by me at the Dermatological Society of London in order to elicit the opinions of my colleagues. It was agreed by all the members present that the clinical appearance of the disease was that of Erythema induratum of Bazin.

Case 2.—(Published in the *British Journal of Dermatology*, July, 1905.) This case was that of a woman, aged 39 years. History

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PLATE I.

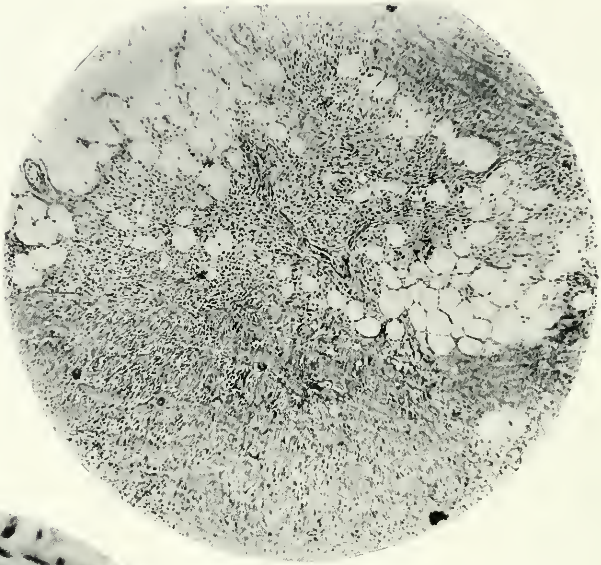

Fig. 1.
Nodule from leg.

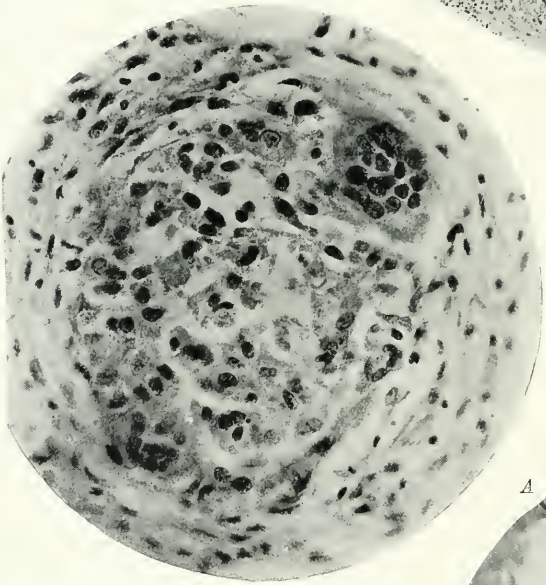

Fig. 2.
Nodule from leg.

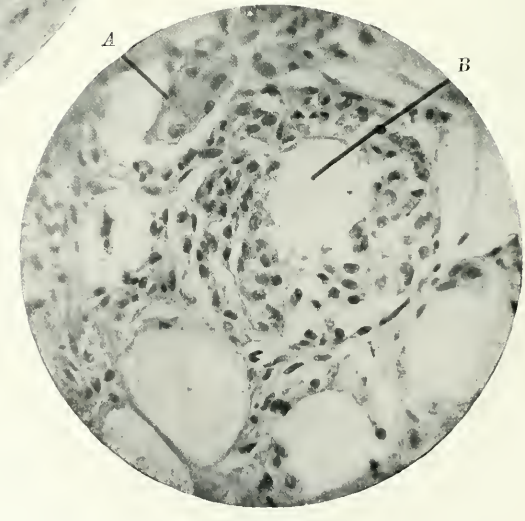

Fig. 7.—Nodule showing inflammatory atrophy of fat.
A. Giant cell. *B.* Fat cell becoming absorbed.

To Illustrate Dr. Arthur Whitfield's Article on Erythema Induratum.

showed a severe attack of acute rheumatism seven years before and constant rheumatic pains since. The heart always gave her trouble from palpitation (though to physical examination it appeared normal), and she suffered from dyspepsia and nervousness. The nodules affected the arms, legs, and, to a slight extent, the ears. They had been present for a year, but had come out more severely three weeks before admission. Those on the legs were situated chiefly below the knee on the posterior surface, and varied in size from that of a small pea to that of a large hazel-nut, the larger ones being visible as cyanotic discolorations of the skin. On the arms none were larger than a pea, and in all positions they were adherent to the skin and not to the subjacent fascia. All were extremely painful and tender to the touch. Nodules were excised for examination and the patient was tested with old tuberculin, to which she did not react. The histological appearances showed that the fat was being absorbed and its place taken by large granular cells with well-developed nuclei. In some cases these cells attained an enormous size and contained many nuclei, thus forming giant-cells, but the arrangement was not that of typical tuberculosis. The older part of the nodule was formed of cicatricial fibrous tissue, and the whole afforded a microscopic finding with which I was then unfamiliar (Figs. 1 and 2).

Case 3.—A woman, aged 38 years, who had been married for fifteen years, and had had two miscarriages followed by three healthy children. After the first miscarriage a crop of nodes had come out and she was laid up with them for six weeks, but none of them had ever ulcerated. About a year later she had another miscarriage, and had had nodes on the legs ever since. They did not come out at any particular time, but they were always worse at the menstrual periods. She had had repeated attacks of "quinsy" and rheumatism in the hands. She suffered from palpitation of the heart (which was normal to examination) and dyspepsia, and was extremely neurotic.

On admission there were two large nodes above the left ankle in front and one or two in the middle of the back of the calf. On the right leg there was a large, thick, flat node about the size of a shilling above the inner malleolus, and above this a reddened thickening the size of the palm of the hand. There were some small nodes also on the back of the right leg. All the nodes were extremely painful. There were also present marked varix of the superficial veins of both legs (Figs. 3 and 4).

Owing to the history of the miscarriages and the subsequent development of the nodes it was thought well to try the effect of anti-specific remedies, though the disease was not believed to be syphilitic. After a fortnight's treatment with iodide and mercury the condition was much aggravated, and it was therefore stopped. No histological examination was made, but the opsonic index was examined on many occasions and found to be normal.

Case 4.—A married woman, aged 40 years, came under treatment for acne and was found to be suffering from nodes on the legs. History showed that she had had a great deal of uterine trouble, which had been treated by an eminent specialist and was to all appearance cured. Sixteen years ago she had suffered from thrombosis in the left thigh after a confinement, and the nodes had been coming on and off ever since. The nodes were not confined to the thrombosed side but affected both legs, though naturally they were worse on the left side. There was no special history of rheumatism, and there was no pain after food, but the face flushed severely after eating and the patient was extremely careful of her diet. The nodes were extremely painful, but she had given up all idea of getting them cured after being under the care of many physicians, and she contented herself with taking aspirin, which relieved the pain.

The opsonic index, which was being systematically examined for the acne, was also examined for tubercle, but was steadily normal.

These four cases seem to offer further proof of the contention that under Bazin's disease more than one affection is included. I may now, perhaps, shortly allude to the literature of the subject.

The first case in which careful investigations were made appears to be that of Audry in 1898, on a patient aged 34 years. As a result of his histological investigations he came to the conclusion that it was not justifiable to group Erythema induratum with the tubercular affections, but that it rather belonged to a chronic type of Erythema nodosum.

Shortly after this Thibierge (1898) published a short series of cases in young girls in which the tubercular nature of the disease was definitely proved by inoculation experiment.

PLATE II.

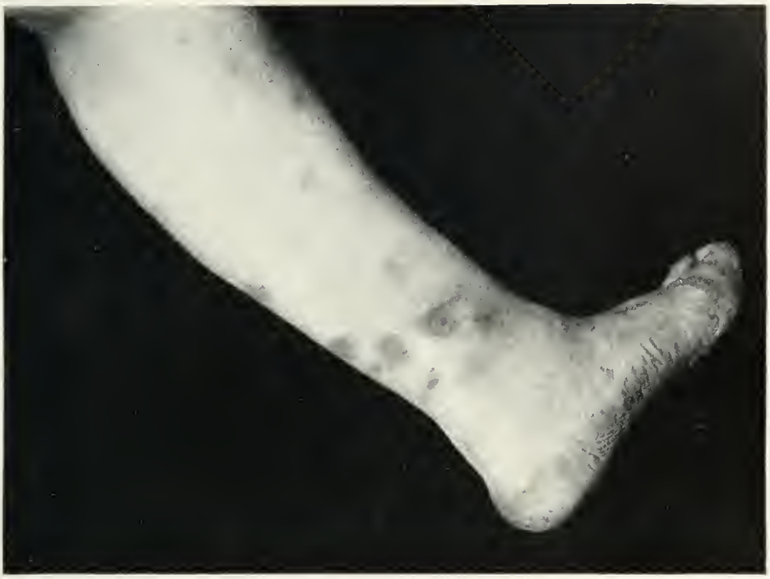

FIG 3.
CASE III.—Nodules in the hypoderm. No tuberculosis present.

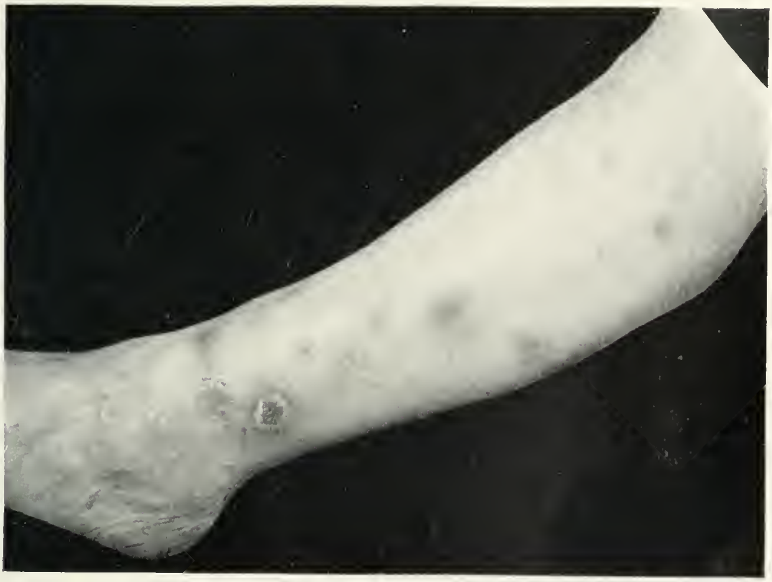

FIG. 4.
CASE III.—Showing that the distribution of the nodules is independent of the large veins.

TO ILLUSTRATE DR. ARTHUR WHITFIELD'S ARTICLE ON ERYTHEMA INDURATUM.

These two opposing conclusions, derived from pathological investigations, appear to have raised doubts in the minds of some observers as to the ætiological identity of all the cases hitherto grouped together under the name of Erythema induratum, but no very definite idea prevailed as to wherein the difference from the clinical standpoint lay.

The first discussion on this part of the subject that I have been able to find is that on two cases shown by Dr. Abraham to the Dermatological Society of Great Britain and Ireland in 1899. The patients were a sister and brother, aged 13 and 7 years respectively. The girl had had mottling and erythema on the legs from infancy, and this had got worse after an attack of measles at the age of eight years. During the last year or two the legs had been very painful, and there had been some thickening and ulceration. The boy had persistent erythema and coldness of the nose without any definite lupus formation. In the discussion Drs. Galloway, Savill, and Radcliffe-Crocker all put forward the opinion that more than one cause could give rise to the symptoms of Erythema induratum. Dr. Galloway stated that there were two types, namely: (1) Distinct nodules with an infiltration of the cutis, followed by ulceration and serpiginous extension; (2) mere œdema of the skin associated with paralytic distension of the superficial vessels, and in this type ulceration, when present, was the result of trauma on an ill-nourished skin. He instanced a case at Charing Cross Hospital of what might be appropriately termed a "red girl," suffering from tachycardia and general erythrodermia, who, if she knocked her leg against a chair, developed a bruise which ulcerated and took months to heal.

Dr. Savill said that he also distinguished between the truly nodular form and that which was in reality solid œdema, and he called the latter form Erythema induratum hypostaticum. Dr. Radcliffe-Crocker said he also thought there was more than one condition included under the name of Erythema induratum. Dr. Abraham, in reply, agreed with these speakers, but thought that this girl was an instance of the true Erythema induratum of Bazin, and alluded to the tubercular history on the side of the mother of these children.

As far as I have been able to ascertain these opinions were based upon clinical observation alone, and I would point out that this distinction between true infiltration of the skin on the one hand and solid œdema with paralytic distension on the other is either in opposition to the anatomical facts or refers to cases which have nothing in common with Andry's and mine.

The next contribution to the distinction between at least two classes of case was, I believe, my own, based on clinical, anatomical, and bacteriological grounds, to which I added later another paper in which the results of tuberculin testing and the opsonic reaction were added. In these papers I endeavoured to separate two types of the eruption, which might with some probability be distinguished by clinical means alone.

I have searched the literature of Erythema induratum and allied conditions somewhat thoroughly, and it is unfortunately too extensive to be even summarised in this paper, but I have picked out certain cases bearing on the point of multiple causation.

Max Rothmann (1894) published under the name of "Inflammation and Atrophy of the Subcutaneous Fat Tissue" the case of a man, aged 52 years, who suffered from chronic rheumatism, and in whom nodules developed on the legs, abdomen, back and breast, and lasted three weeks. They were examined histologically and the findings were identical with those in my cases. He refers also to a case previously published by Pfeifer (1892) in a young girl, with similar histology, but in her case the nodules lasted a year and left atrophic scarring, so that this, in the absence of careful investigation for possible tuberculosis, may well have been a case of true Bazin's disease, though the distribution on the face, arms, and chest is unusual.

Kraus published a case in a girl, aged 15 years, who developed first a bullous eruption on the left forearm and left foot, and then red nodes on the face, neck, lower extremities and trunk. Some of these nodes liquefied and discharged oil (*cf.* Audry's case). The patient was not tested with tuberculin, but sodium salicylate relieved the pain.

In a further excellent article, based on the histological examination of a subcutaneous syphilitic gumma, Kraus refers to Pfeifer's, Rothmann's, and his own cases, and points out that cell infiltration with absorption of fat is a phenomenon common to many processes. In 1905 he published a case in a pregnant woman, aged 40 years, with a slight cardiac murmur. The nodules varied in size from that of a pea to that of a hazel-nut and they did not clear up after the pregnancy was over. The patient had slight albuminuria, which persisted. The histology of the nodules was identical with that in my cases, and the patient did not react to tuberculin.

Walther Pick (1904) published two cases. (1) A girl, aged 17 years, with swelling and redness of the calf, turning blue and becoming painful. There were several nodes on the calf, and on one of these there was flaccid bulla with sterile fluid. The patient had a cough due to catarrhal laryngitis. She was tested with 5 mg. of tuberculin, but gave no reaction. The nodes subsided with sodium salicylate internally and acetate of aluminium locally. (2) A girl, aged 19 years, who had had severe rheumatism at 13 years. She had been weakly and pale for two years and she had night sweats. She was attacked with sudden pain and swelling in the legs six months before admission. The swelling went down, but left nodes which persisted. She did not react to the first two injections of tuberculin, but gave a smart reaction to the third—a large one. In the present state of our knowledge it is not safe to argue that this reaction after a third injection proved the presence of tuberculosis, since we know that the two previous injections may have sensitised the patient. In both of these cases the histology was identical with that of my cases.

Colcott Fox, to whom the best clinical description of Erythema induratum is due, alluded in his paper before the International Congress of Dermatology in 1900 to a case in a woman, aged 35 years. From this case a nodule was taken and inoculated into a guinea-pig, with the result that the animal developed tuberculosis.

Phillipson (1901) published under the name of "Phlebitis nodularis necrotisans" the case of a girl, aged 18 years, whose father had died of pleurisy. Her affection was of two years' duration, and consisted of pustules which burst and left painless ulcers. He cut his sections parallel with the surface and found a phlebitis of small veins. He did not find tubercle bacilli, and used no other test, but he refers to a previous case in which he inoculated some of the material into the anterior chamber of a rabbit's eye. This was followed by the development of a nodule after thirty-seven days, and he considers this proof of the tubercular nature, but as the nodule resolved spontaneously this cannot be regarded as certain.

Besides these cases there have been several in which tuberculosis has been undoubtedly present, and I need not waste more time referring to them.

Considering all these facts I thought it wise to study the more general pathological literature on the subject of inflammatory processes in the fat, and for help in this research I must acknowledge my indebtedness to the excellent article of Krans already quoted.

Flemming, in describing fat atrophy, says that in simple atrophy the result of starvation, "There occurs with the gradual absorption of the fat drop, in many cases a marked and increasing growth within the fat envelope of round granular cells, and there remains eventually, instead of the old fat cell, only a nest of these elements of about the same size. These elements gradually fall or wander apart. I never saw this process affect every cell or even a great number of them; most break down into the form of "simple serous fat cells." Flemming also found occasional multinuclear cells, and I therefore conclude that the histological appearances in simple starvation show a remarkable similarity to those in the cases quoted.

Heitzmann distinguishes between the effects of acute atrophy and those of chronic, and according to him the chronic form is almost exactly identical in its histology with that which I have described.

Marchand, in his authoritative work, *Die Wundheilung,* describes the fat atrophy accompanying the inflammation in the zone around the line of demarcation of a case of gangrene. The illustrations are so noteworthy that I have copied them—somewhat crudely I am afraid. His description is that of numerous, long polyhedral cells taking the place of the fat-cells, and in one place a large half-moon cell with four nuclei has been formed. In another place the edge of a fat-cell is in contact with a large, finely granular giant-cell with five nuclei. Mitosis is present, but direct fission may also occur. Later the fat cells without losing their membrane become filled with large cells with vesicular nuclei (Figs. 5, 6, 7).

Such, then, is the consideration of the clinical and histological characteristics of the doubtful cases at present grouped under the name of Erythema induratum.

It appears that the occurrence of a purely œdematous thickening simulating Erythema induratum has not yet been demonstrated, but on the other hand all kinds of inflammatory atrophy of the fat may be associated with infiltrations of similar histological appearance.

The attributing of the nodules in the non-tubercular cases to circulatory hypostasis alone is difficult to justify in the face of the fact

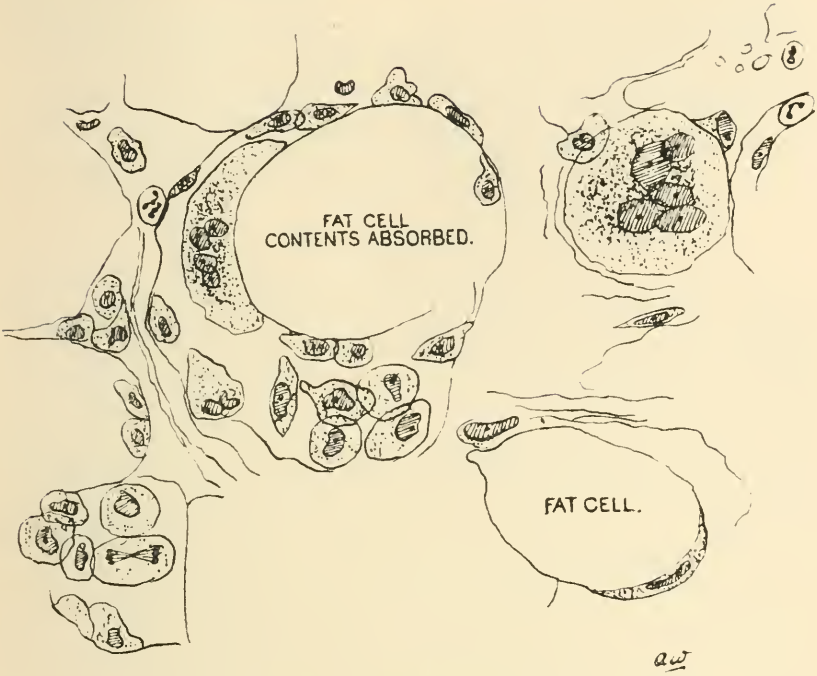

FIG. 5 (after Marchand).

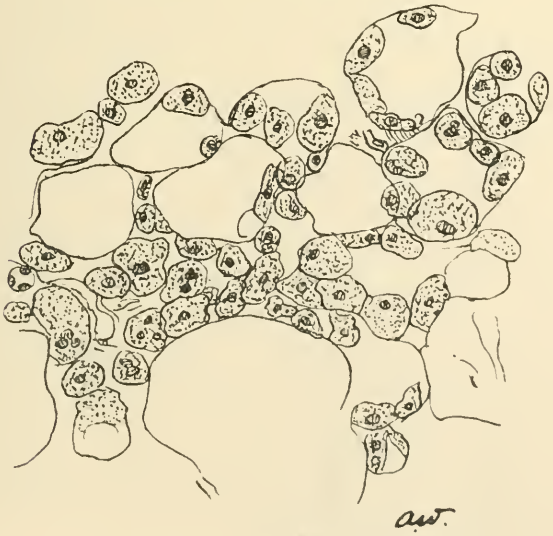

FIG. 6 (after Marchand).

that they occur on the arms and the upper parts of the body, though naturally not to so marked an extent since all inflammatory lesions are influenced by hydrostatic force. The nodules of the non-tubercular form, or probably forms, are apparently more acute, of shorter duration, less liable to ulcerate, much more painful, and are apt to affect older patients, all of which distinctions I have pointed out in my previous papers.

In my second paper on this subject I tried to isolate a certain type from the main mass of doubtful cases, and I think on the whole that this is justifiable, though in the absence of a more complete knowledge of their ætiology a good deal of caution is advisable. This type certainly seems to be closely associated with dyspepsia and so-called "chronic rheumatism," and I suppose this latter combination is only too familiar to us all. Until, however, we have some clearer ideas on the subject of chronic rheumatism I fear we shall not get much farther in our knowledge of these particular cases of nodose inflammation of the hypoderm.

In conclusion, I should like to say a few words as to the founding of a diagnosis. Although one may suspect that a given case is or is not tubercular in origin on clinical grounds, I am convinced that no degree of certainty can be obtained. In support of this contention I would remind you that until the separation of the tubercular from the non-tubercular forms by means of bacteriological investigation and experiment the greatest authorities were divided as to the relationship between Bazin's disease and tuberculosis. The investigations of Audry, Thibierge and Colcott Fox gave rise to the suspicion of a manifold ætiology, but even then clinical observation alone suggested a process which I do not think has been proved to exist. Does the histological diagnosis rest on firmer ground? I am afraid I must answer this question in the negative. A somewhat prolonged investigation into the subject has shown me that very similar appearances may be seen in starvation, in gangrene from physical causes, in syphilis and in tubercle. The histology in all these cases is sufficiently like that of tuberculosis to mislead those whose histological knowledge is superficial, and I am sure that some of the descriptions believed to be typically tubercular are nothing more nor less than inflammatory fat atrophy.

There remains for us then only the bacteriological diagnosis, with which I include testing by means of tuberculin and the opsonic index. It is perhaps uncertain whether the last-named method is quite reliable, but as far as my experience goes I should say that repeated opsonic estimations in so widespread a disease as that under discussion are trustworthy, and, of course, they cause absolutely no inconvenience to the patient.

Discussion.

Dr. H. **Radcliffe-Crocker** said that the Section was much indebted to Dr. Whitfield for an important contribution to an interesting and difficult subject. Such a paper involved a greater amount of research and more hours of work than would appear from a cursory hearing of the contribution. It was a paper that needed to be studied carefully. He was inclined to agree with almost all that Dr. Whitfield had said, but he had not been able to grasp the subject-matter thoroughly enough to make any useful criticism. He had had personal experience of two cases, neither of them in young people. One was the case of a woman, of fifty, to which Dr. Whitfield had referred. The other was that of a man of thirty-six or thirty-seven, and his was a true case of tubercle. He supposed that Dr. Whitfield would put in his category cases in which there was no response to tuberculin. Would he exclude tuberculosis from such cases? He thought there was no doubt that some of the cases were hypostatic in their origin.

Dr. **James Galloway** said that Dr. Whitfield's paper had placed them all under an obligation. He quite agreed that these cases of subcutaneous nodules did comprise various types of disease, in addition to the tubercular type which was generally admitted. The most suggestive part of the paper was that which had reference to the changes taking place in these inflammatory nodules leading to fat atrophy. The sketches which had been passed round reminded him of certain histological observations of his own. In many cases he was not satisfied as to the tubercular origin of the disease, and was most unwilling to believe that the infiltration was tuberculous in its character at all. He was not quite so sure as Dr. Whitfield appeared to be that vascular disturbances had comparatively little to do with the actual causation of these hypodermic nodules. In most of the cases brought forward it was shown by the weak circulation that there was a tendency to congestion of the skin. Owing to the hypostasis of the superficial veins the nodules might very easily occur, and rapidly produce the changes they were familiar with in these doubtful cases. He had a case coming into the hospital shortly suffering from very severe symptomatic anæmia. The patient had now developed numerous hypodermic nodules, occurring not only in the neck but also in the thigh. She was coming in mainly for the purpose of observation—although, of course, it was hoped to effect a cure—and he would be very glad if Dr. Whitfield could see her with him. On the whole question he was inclined to place more weight on the vascular side of the ætiology than Dr. Whitfield appeared willing to do.

Dr. **Whitfield** replied that he desired to correct a false impression which Dr. Galloway appeared to have gathered. He did not mean to neglect the influence of vascular disturbances. What he meant to say was that apparently there was no ground for distinguishing between an infiltrated disease of the true skin and a solid œdema of a hypostasis. Microscopically there were very marked infiltrative nodules, exactly like a gumma or a tuberculous mass in the hypoderm. In fact, he had not been able to find a simple œdematous nodule. When he cut out what superficially appeared to be such a nodule he found it to be just as much an infiltration with giant cells and lymphoid growth as when he cut a similar nodule out of a case which was admittedly tubercular. In addition to which he would point out that the weak peripheral circulation was at least as much, if not more marked in the tubercular cases, and that prolonged standing was in his experience a marked feature in the history of such cases. It would therefore seem reasonable to assume that there existed some other factor in the non-tubercular cases corresponding to the tubercle bacillus in true Bazin's disease.

THE SERUM DIAGNOSIS OF SYPHILIS.

By HALDIN DAVIS, M.B.Oxon., M.R.C.P., F.R.C.S.

In the year 1901 Bordet discovered the phenomena of hæmolysis, which may be demonstrated by the following experiment: Take two test-tubes; into one of them put a cubic centimetre of a 5 per cent. suspension of sheep's blood-corpuscles in salt solution, and add to it a drop of serum from a normal rabbit, and let the mixture remain in the incubator at 37° C. for one to two hours. At the end of that time the corpuscles will be found to have collected as a thick sediment at the bottom, leaving a clear supernatant fluid. Into the other test-tube put 1 c.cm. of the suspension of sheep's blood-corpuscles as before, and add to it a drop of serum taken from a rabbit into which has been injected (either intra-venously or intra-peritoneally) some sheep's blood. Place the mixture in the same incubator as the other. On examination at the appointed time no sediment will be found, but the blood-corpuscles being "laked" the fluid will be red but translucent. This is because the serum of the rabbit, which has been treated with sheep's blood, has acquired the power of hæmolysing sheep's corpuscles. It is said to be "immunised" against sheep's blood. Such serum is said to be active. If, however, "active" serum be heated to 55° C. for half an hour, the hæmolytic power is lost and the serum is said to be "inactivated." "Inactivated" serum is not, however, normal serum, for if we add to it a drop of normal serum, the mixture (neither constituent of which is alone active, that is hæmolytic) is as potent to hæmolyse as the original active serum. It is therefore plain that active serum contains two substances, both of which are necessary for hæmolysis; one of these, peculiar to itself, is not destroyed by heat, and is called the amboceptor, while the other, found also in normal serum and thermolabile, is called the complement.

Many other substances besides the blood of an animal of another species, if injected into animals, have the power of evoking the production of a specific amboceptor in the animal so treated, for example, bacterial extracts and certain proteid poisons, such as abrin and ricin. The name given to designate all bodies capable of evoking amboceptors is "antigen," while the amboceptor evoked is called the "antibody." The presence of an antibody may sometimes be demonstrated directly by its action on the antigen, as, for example, in the agglutinating reaction of typhoid. If this is impossible it must be demonstrated by its power of absorbing the complement in a hæmolytic system, and thereby preventing the occurrence of hæmolysis.

Now, in syphilis we are at once met by the difficulty that the *Spirochæta pallida,* the causal agent of syphilis, cannot be cultivated, and therefore it is impossible to make an extract of its cultivation and using that as the antigen, as can be done in the case of typhoid and tubercle; Wassermann, however, hit upon the device of using extracts of organs in which large numbers of spirochætæ could be demonstrated instead. The best material for this purpose he found to be the liver of a still-born syphilitic fœtus, in which large numbers of spirochætæ always can be found. He also used extracts of other syphilitic organs, but they were not so satisfactory. The syphilitic antibody he demonstrated in the serum of the syphilitic patient in the following way.

The hæmolytic system is only completed when all three factors, the blood-corpuscles, the amboceptor and the complement, are free to react with one another. If the syphilitic antigen, the syphilitic antibody and complement are placed together the complement will be fixed, and will then no longer be available to complete the hæmolytic system, and therefore no hæmolysis will occur on addition of corpuscles and amboceptor. Now syphilitic serum contains not only antibody, but also complement: to obtain antibody alone the serum must be "inactivated." This, therefore, is the reaction:

(1) Extract of syphilitic liver—antigen.

(2) "Inactivated" serum from a syphilitic patient—antibody.

(3) Normal blood-serum from any mammal—complement, are put together in the incubator; fixation of the complement takes place, so that when the sheep's blood-corpuscles and the amboceptor are added, the hæmolytic system remains incomplete and no hæmolysis can occur. This reaction was first published by Wassermann in 1906.

On the Technique of the Reaction.

The complicated nature of the reaction is obvious, and Wassermann and Bruch both recommend that only those who are experienced in biological research should undertake it for diagnostic purposes; they reckon that it takes a beginner about three or four weeks' hard work to become reasonably proficient in it.

As we have seen above the following constituents are necessary;

A. The hæmolytic system, consisting of:

(1) A 5 per cent. suspension of sheep's blood-corpuscles in saline.

(2) "Inactivated" serum of a rabbit highly immunised against sheep's blood.

(3) Normal guinea-pig's serum.

B. Extract of the liver of a syphilitic fœtus.

C. Serum from the syphilitic patient.

The great essential for the correct working of the reaction is a complete system of controls. The first step, therefore, is to see that the hæmolytic system is in order. For this three tubes are necessary:

(1) Contains 1 c.cm. of sheep's corpuscles with a drop of the inactivated serum and a drop of normal serum.

(2) Contains 1 c.cm. of sheep's corpuscles with inactivated serum only.

(3) Contains 1 c.cm. of sheep's corpuscles with normal serum only.

If the system is in order hæmolysis takes place only in (1).

It must be remembered that a highly immunised serum is hæmolytic in very high dilutions, viz. 1 in 300 or even 600. It is well to use a dilution—not higher than half the maximal which is effective, *i. e.* if hæmolysis occurs with a dilution of 1 in 400 the serum should be used in a dilution of 1 in 200. It must also be remembered that inactivated serum does not keep at all well, not even in sealed, opaque tubes. The fresher the serum, therefore, the better, and the more reliable.

B. The extract containing the antigen, *i. e.* extract of liver from a syphilitic fœtus. This is very important and also very difficult to obtain and preserve. At one time it was thought only possible to use the fresh watery extract, which will keep only a few days, but it has now been found possible to use either an alcoholic extract or to preserve the dried extract in the form of a powder. This is an important advance in making the reaction a practical clinical method.

C. The serum of the patient to be tested. For this 6 to 8 c.cm. of blood should be drawn off. In adults the most convenient method of obtaining it is by venesection, in children owing to the small size of the veins wet-cupping is better. The above quantity of blood yields about 1·4 c.cm. of serum. Each determination requires about 0·2 c.cm. and as at least two controls are necessary 0·7 c.cm is required, so we have about double that quantity in case of accidents, and there is no need to wait for the separation of all the serum.

Having now all the necessary reagents and having tested the hæmolytic system we can proceed to the main research. This is done by taking a tube and putting in it (1) a measured quantity (say 0·4 c.cm.) liver extract, (2) 0·1 c.cm. of the inactivated serum of the patient, and 0·1 c.cm. guinea-pig serum; the mixture is shaken and put in the incubator at 37° C. for one hour. At the end of that time 1 c.cm. of the suspension of sheep's corpuscles and of amboceptor are added, and the whole kept for another two hours in the incubator. If the tube then be examined and if the patient be syphilitic no hæmolysis will have taken place.

But the trustworthiness of the test depends on several conditions, all of which must be duly fulfilled. These are given by Meier as follows:

(1) The specificity of the reaction, therefore the serum to be investigated, must be tested against normal extracts.

(2) The activity and specificity of the syphilitic liver extract, which must therefore be tested against both known syphilitic sera and also against normal fresh sera.

(3) The standard syphilitic serum used in (2) must be tested against normal extract.

(4) The activity of the hæmolytic system. This has already been done.

(5) The inability of both the extract and the serum under investigation, when used alone, to fix the complement.

This is shown in the one case by using a double quantity of extract, and in the other by using a double quantity of serum alone, and finding that in each case hæmolysis is unaffected.

All these different reactions may thus be tabulated:

			Result.
Syph. Serum	Syph. Extract	Hæm. System	No Hæmolysis.
,, ,,	Normal ,,	,, ,,	Hæmolysis.
Normal Serum	Syph. ,,	,, ,,	,,
Serum A	,, ,,	,, ,,	No Hæmolysis.
,, A	Normal ,,	,, ,,	Hæmolysis.

Serum A is the serum to be investigated. Amboceptor used in a dilution of 1 in 200. Conclusion to be drawn: The patient A is syphilitic.

The above is only the qualitative application of the method; like other biological reactions it can be applied quantitatively; both the liver extract and serum may vary in strength, and each may be estimated by the amount of the one required to give a positive reaction with a standard specimen of the other. It will be seen that this is an important thing to do, because valuable information may be afforded by observing the variations in the serum-value of a patient at different stages in his syphilitic career.

RESULTS.

Since Wassermann first published his account of the reaction in 1906 some thousands of cases, syphilitic and non-syphilitic, have been studied in its light. It has also been extensively tested on apes of various species, chiefly in the expedition sent to Java under the leadership of Neisser to study experimental syphilis under more favourable conditions than those which obtain in Europe, where the difficulty of obtaining the material and the expense are so great. Some points have so been discovered which could not have been settled by clinical work alone. The following are the chief points brought out:

The highest apes, *e.g.* the ourang-outang, never (like man) give a positive result unless infected—that is to say, the specific anti-body cannot be demonstrated in their serum. In the lower apes, however, *e. g. Cynomolgus*, anti-body can, however, sometimes be demonstrated in the serum before infection, but after infection the quantity is always very much increased. All apes give a positive result sooner or later after infection.

The presence of antigen can be demonstrated in the organs of infected apes within seven days of inoculation, long before the appearance of a primary sore.

Antigen can be found, it is true, in small quantities in large extracts of organs of non-syphilitic animals, but never in anything like the quantity that it is found in infected animals. Forty-six experiments were done to this point.

Apes treated immediately after inoculation with mercury or atoxyl only develop antigen in their organs in about 5 per cent. of the cases, while of those treated with iodine compounds about 50 per cent. develop antigen.

In untreated animals the reaction of the serum persists for an indefinite time. In no case has it disappeared, but as yet no animal has been observed for more than two and a half years. This fact is strong evidence that the disease never undergoes spontaneous cure.

Results obtained in Man.

The results published by several different German observers agree very fairly together, so it may be useful to give in some detail the figures of one of them. Meier gives the results of investigations on 202 individuals. Of these twenty-one were free from any suspicion of syphilis either at the time of examination or at any previous epoch in their existence. Every one of these gave a negative reaction.

One hundred and eighty-one individuals were either admittedly syphilitic or suffered from a para-syphilitic affection. They may be classified according to the following table:

	Positive reaction.	Negative reaction.	Percentage of positives.
Primary syphilis	25	17	68
Secondary syphilis	84	78	93
Tertiary syphilis	16	16	100
Malignant syphilis	4	4	100
Hereditary syphilis	4	3	75
Latent syphilis	36	29	83
"Clinically" cured syphilis	4	—	—
Syphilis of the central nervous system	8	6	75
	181	153	85·1

The conclusions to be drawn from these figures are:

(1) No non-infected individual gives the reaction. Therefore a positive reaction is a sure sign of syphilis.

(2) It cannot be said that a negative result excludes syphilis when the lesion for diagnosis is a primary sore, for only about 70 per cent. of admittedly syphilitic primary lesions give a positive reaction. It can, however, be said that it is very nearly sufficient to exclude syphilis if a doubtful rash is in question, for the percentage of positive results in the secondary stage is ninety-three. In the case of doubtful tertiary manifestations it is conclusive, for they all give positive results.

(3) These figures also give additional evidence of the close connection of syphilis with nervous disease.

(4) Concerning the curability of syphilis, it is to be noted that in none of the four cases of "clinically cured" syphilis is there a positive reaction. In these cases no symptoms had occurred during at least nine, and in one case twenty-two years before examination. On the other hand, in some cases of "latent" syphilis positive results were obtained as much as three or five years after the last clinical signs of the disease had disappeared. Here we have, therefore, a valuable help in considering the advisability or otherwise of marriage in a patient. Marriage may certainly be regarded as contra-indicated if a positive reaction is given, but it is necessary to be more guarded in giving consent when the reaction is absent. Probably a repeatedly negative result in the absence of anti-syphilitic treatment would be pretty conclusive in favour of allowing marriage. As regards the effect of treatment on the reaction Bruch has published some impor-

tant work. Bruch did not find so high a proportion of positive results in his cases as did Meier. This may be because he was not using so potent an extract of antigen as Meier was able to obtain. He has, however, found that the reaction was influenced very markedly by treatment, and, in fact, states that it is in direct relationship with the presence of the virus. He gives particulars of a number of cases in which the reaction present at first disappeared after a course of mercurial treatment.

Some Theoretical Considerations.

It has already been shown that the power of organs to act as antigen does not depend on the presence of the *Spirochæta pallida*, for this property is possessed, in a very much lesser degree, by extracts of normal tissues. For this reason Weil and Braun have argued against the validity of the reaction, but Wassermann shows that the potency of the normal tissues is in any case very much less than that of infected tissues, and, what is even more important, non-syphilitic sera never give the reaction with any extract at all. Among non-syphilitic sera are included the sera of tuberculous, carcinomatous, and sarcomatous and other patients. For clinical purposes this is all-important, because it is always the serum of the patient which we have to test, not the extract of one of the organs.

What, then, is the nature of the substance which is designated the antigen? Porges and Meier have shown that it is soluble in alcohol, and that it is allied to lecithin; it may, in fact, be said to belong to the group of "lipoid" bodies. There is some evidence that lecithin itself will act as the antigen, but more work is necessary on this point. If the substitution of lecithin for extract of liver is possible, it will go far towards simplifying the clinical application of the reaction. Other attempts at simplifying the technique have been made by Fornet and Michaelis, who say that they can obtain a precipitate when a powerful extract of antigen is placed with a serum very rich in antibody. If this reaction could be depended on as a basis of a clinical method it would, of course, be most useful, because it would dispense with the necessity for the hæmolytic system. Unfortunately, however, their results are not confirmed by other observers, notably, not by Wassermann and Bruch.

As regards the antibody, the fact that it is found often in the serum of normal apes (of lower type), which nevertheless can be successfully inoculated with syphilis, shows that it does not have a direct immunising action. Nor does it seem to have any anti-bacterial action, for apparently the more severe the infection the more anti-body is present, while as treatment progresses the anti-body disappears from the blood.

Remembering that *S. pallida* is a protozoon, Wassermann has recently hinted at a very interesting and at the same time important possible development of the subject. It is, he thinks, quite likely that in all cases of protozoal infection there is a similar excessive production of lipoids in the organism. If this is so, and if an analogous reaction can be demonstrated in these diseases, it will be a useful aid to the diagnosis of trypanosomiasis, spirillosis, etc. Already Landsteiner has published some work on these lines on dourine, a disease of trypanosome origin occurring in animals. Nor if this line of research proves fruitful is there any reason to think that it will interfere with the utility of the application of the original reaction to syphilis. In fact one may say in the words of Wassermann himself: "Wherever the further study of the serum reaction in syphilis may lead, it signifies for practice an unexpected prize" (*Ungeahnten Gewinn*).

Some References.

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CITRON.—*Ibid.*, No. 43, 1907.

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of this Section was held at 20, Hanover Square, on Thursday, December 17th, 1908, Dr. H. RADCLIFFE-CROCKER in the chair.

Dr. COLCOTT FOX read a paper on *Endothrix Tricophytic Flora in London*, which will be published in this Journal shortly. The paper was followed by a discussion.

The following cases and specimens were shown:

The PRESIDENT and Dr. BUNCH showed a *case for diagnosis* with cutaneous nodules on the legs. The patient was a woman, aged 42 years, who had been seen for the first time ten days previously. She then had some ill-defined patches of erythema on both legs, which had been present, she said, for a fortnight, and which did not disappear on pressure. When seen a week later they were distinctly nodular and more numerous, varying in size from a pea to a hazelnut, firm to the touch, red or purplish in colour, with an irregular distribution along the course of the veins, but with no definite connection with the veins, which were varicose. They were present on both aspects of the legs, and were more numerous on the anterior and external surfaces. The nodules were surrounded by an erythematous zone, and a certain amount of erythema was present, especially on the external aspects of both legs. No biopsy had so far been made, but if a histological examination were made the result would be communicated to the Society.

In the discussion Dr. WHITFIELD did not consider that they were of the same nature as the venous nodules described in his recent paper, but no member offered a decided opinion as to their nature.

Dr. H. G. ADAMSON showed two cases of *"neurotic excoriations."* (1) Florence J—, a healthy-looking girl, aged 13 years. There were present upon the arms and forearms several elongated oval excoriations, each from 2 to 3 inches long and about 1 inch wide, with the long axis parallel with the long direction of the limit. There were similar smaller excoriated patches on the backs of the hands, a medium-sized patch on the front of the chest, and a long, $\frac{1}{2}$-inch-wide streak, like a graze, down the front of the right thigh. The child stated that the patches smarted, but that they did not itch, and she denied that she scratched or rubbed them. The mother had noticed that the sore places were preceded by a red mark, "like a nettle-sting." The eruption had begun some weeks ago with a scratch, which had "festered," on one hand. Other sores followed, first on the same hand and arm, then on other parts. The sore places quickly healed, and there were present at the time of exhibition several oval, dusky, shiny patches, the result of recently healed lesions. The child, according to the mother's account, was a good girl. She was in the third standard at school. Her father had died in a lunatic asylum, and a brother was now insane.

(2) Lizzie C—, aged 28 years, had suffered from a skin eruption since she was 15 years of age. She had been in hospital with "pemphigus" five years ago, and since then twice in a surgical ward—on the first occasion with a "septic leg," when she had had twelve operations; recently with four ulcers on the front of the right leg below the knee, some "brawny swelling" of the leg and a temperature of 102·2° F. The ulcers had been scraped and the swelling incised down to the tibia without finding diseased bone or pus. Anti-streptococcic serum had been given. Improvement had taken place, but the wounds had broken down again. Two weeks ago the patient had been sent to the exhibitor on account of a skin-eruption. She had then presented on the forearms and hands elongated oval excoriations, evidently of quite recent origin. These had healed rapidly with Lassar's paste, and at the next visit there had been five or six similar patches on the left leg. They were larger than those on the arms, and, although oval in shape, they had jagged margins. On the left palm was a long narrow blister which had come up while the patient was waiting to be seen. When shown to the Society the patient presented similar lesions which had recently appeared, the older ones having already healed over. It was suggested to the patient that she rubbed these places because they itched, but she said they did not itch, and denied rubbing them. There was no evidence of factitious erythema or urticaria. She was obviously neurotic, and anxious to attract sympathy.

(3) A water-colour drawing of a third case in a girl, Mabel F—, aged 15 years, which represented a dozen lesions on the face, each

about $\frac{3}{4}$ inch long by $\frac{1}{4}$ inch wide, some of them recent excoriations, others crusted, others healing. There had been similar lesions upon the trunk, and two shallow oval ulcers upon the front of the right leg. The patient was a bright little girl, and apparently in good health. The eruption had been present one month. The patient had described the lesion as beginning with an intense itching, quickly followed by an oval red patch, with a small pin-head-sized hard lump in the centre. She had said that she was then obliged to rub the patch, which she did gently, and that in a few seconds a blister formed, which broke and left a raw surface. The eyelids and ankles were said to swell at times. The further history of the case had not been traced.

In each of these cases the long oval shape of the lesions at once suggested artificial production. The type of lesion was that known as "neurotic excoriations" of Erasmus Wilson, and produced by rubbing with the finger. This method of production had been proved in a case of Dr. Liveing's and in one of Dr. Colcott Fox's cases, and it was always noticeable that the lesions lay in a direction which would be most convenient for rubbing, as across the chest, along the limbs, diagonally on the shoulder, etc. A point which had not been finally settled was, to what degree a special vulnerability of the skin, or, perhaps, a preliminary pruritic lesion, was responsible for the erosion. Erasmus Wilson had denied that they were intentionally produced, and believed "that a feeling of itching or stinging induced the patient to rub the spot, the effect of a very slight rub being o detach the cuticle." In one of his cases Dr. Colcott Fox had noticed that wheals were readily produced, and he had thought that "the discovery of this fact, and perhaps a preliminary bite, probably suggested the idea of her subsequent action." In the exhibitor's third case (water-colour drawing shown) the patient had admitted that she gently rubbed the skin because an itchy red patch appeared. But there were cases in which there seemed to be no special vulnerability of the skin, and in which the rubbing, though evidently the cause of the lesion, was denied by the patient. In Dr. Liveing's case it had been demonstrated that a very considerable friction was required to produce a lesion. As with other types of artefact eruption the interest of these cases lay, not in the skin-affection alone, but also in its association with other evidences of mental or moral perversion.

References.—Erasmus Wilson's *Lectures at the College of Surgeons*, 1874-1875, p. 192. Cases I and III. Colcott Fox, *Illustrated Medical News*, vol. v, November 2nd, 1889. Liveing, *Handbook of Skin Diseases*, fifth edition. 1887, p. 417. Crocker, *Diseases of the Skin*, third edition, vol. i, p. 421. Sangster, *Clin. Soc. Trans.*, vol. xi, p. 212; *Trans. Internat. Med. Congress*, 1881; *Lancet*, vol. i, p. 909, 1882. Stelwagon, *Archives of Dermatology* (New York), 1882, p. 236. Colcott Fox, *Lancet*, vol. ii, 1882. p. 1109. Footner, *ibid.*, vol. ii, 1883. Murrell and Hebbert, *ibid.*, vol. ii, 1883. Colcott Fox, *British Journal of Dermatology*, March, 1907, p. 95. Ormerod, *ibid.*, April, 1905, p. 142.

Dr. J. H. Stowers reminded members of a case which he showed in a malingerer who had a distinct object in doing it. The house-physician did before the patient what he believed her to have done, and then taxed her with doing it. She then confessed.

The President said all would agree with the diagnosis of the cases; all dermatologists saw such cases from time to time, and they were fairly easily recognised. But he thought there was often a physical basis for them, perhaps some suggestion, and in a small proportion of them there was some real lesion, and then the patient worked it out in the elaborate way now seen.

Dr. J. L. Bunch showed a case of *morphœa*. The patient, a little girl, aged 5 years, fell off some railings two years ago on to her forehead, and on the site of the blow there appeared a week or two afterwards a small spot which gradually spread. There was now an atrophic, depressed, yellowish patch about six inches long extending backwards from the right supra-orbital notch on to the scalp. No hair was present over the area of the lesion, and hairs pulled out from its margin showed a swollen, clear root-sheath. No micro-organisms could be detected in these swollen root-sheaths. The distribution of the lesion appeared to be strictly that of the right supra-orbital nerve. The mother was quite definite about the history of the blow, and ascribed the onset of the lesion to it.

Dr. Wilfrid Fox showed a case of *Lichen planus*, which had been treated by injections of soamin, and showed toxic signs. The patient, a woman, aged 37 years, came up to the Out-patient Department of St. George's Hospital on October 7th last. She showed a very extensive distribution of the disease, being most marked on the lips, tongue and buccal mucous membrane, the trunk, back and front, and the limbs, more especially the legs, where the papules were of the usual verrucose type, and somewhat aggravated by the presence of varicose veins. There was no attempt anywhere at linear or annular arrangement, the papules being scattered about irregularly and most of them typical in aspect. The itching was intense, but otherwise the patient was well.

Soamin was injected in the form of a 10 per cent. solution in water three times a week, into the muscles of the buttocks. The does given was 4 c.c., which after five injections was increased to 5, and then 6 c.c. The total amount given was 70 grs., at which point toxic signs showed themselves. From a therapeutic point of view the drug appeared to have a marked beneficial effect on the disease. After three injections the pruritus entirely ceased, although no local treatment was given, the papules rapidly flattened out and disappeared, leaving the usual pigmentation, which was still present when the case was exhibited. The cornified lesions on the legs remained about a fortnight after the softer papules, and then re-acted quickly to local treatment of salicylic acid.

During the period of the injections the patient was extremely well in her general health, toxicity coming on very abruptly. The signs that she showed were rapid pulse, which remained at 120 for over a fortnight, and consequent shortness of breath on going upstairs, sense of weakness, and shooting pains in the limbs. The eye symptoms were rather remarkable, the patient complaining of seeing it "continually raining," and on going into a dark room, or on trying to sleep, she saw bright flashing lights. There was no vomiting, and nausea was slight; there was also a little griping pain in the stomach. These symptoms passed away gradually in about three weeks' time, and the patient now felt quite well.

Dr. DOUGLAS FRESHWATER showed a case of *syphilis secondaire tardive* (Fournier) whose history presented points of interest. The patient contracted syphilis twenty-five years ago, and was thoroughly treated for about two years. From that time until about four years ago he had no symptoms of any kind, when there appeared an extensive rash more or less distributed over the whole body, and which has persisted on and off ever since. At the present time there was an extensive gyrate erythema on the body, especially well marked over the lower abdomen and lumbar regions; there were also numerous small erythematous lesions in the popliteal spaces and on the flexor surfaces of the arms. A plate in Fournier's book on *syphilis secondaire tardive* was shown illustrating an almost identical lesion to the one present on the abdomen.

The rash had been rapidly fading since the patient was put on injections of artacetin. He had received injections three times a week of 5 c.c. of a 10 per cent. solution of artacetin; in all he had had six injections.

Dr. Graham Little showed (1) a case of *rodent ulcer* of the left lower eyelid in an American lady, aged 46 years, who had been sent to him by the late Dr. Frank Montgomery, under whose treatment she had been for some months. The history given was that she had had a hardening of a portion of the eyelid, which had been diagnosed by Dr. Montgomery as rodent ulcer, and had been treated with X-rays with good results, since a disappearance of the induration had taken place after about twenty-five treatments. The induration had been first noted five years ago and had been treated two years after it was noted. About twelve months ago, apparently in the same site as the previous lesion—but the patient cannot state with certainty whether this is so—there developed a similar hardening of the edge of the eyelid. This was again treated with modified X-rays for thirty treatments, but without any obvious good result. She had then decided to come to Europe, and had been seen by several English and German oculists. When shown there was an elongated indurated ridge on the free border of the lower eyelid, of almost cartilaginous hardness. The position was curious, and the case was shown largely with the object of obtaining advice as to the best treatment to be adopted.

The diagnosis of rodent ulcer was confirmed by the Society. Ionisation, treatment by radium, and excision were among the methods of treatment recommended.

(2) A case of *favus of the scalp and of the glabrous skin* in a young English lady, the wife of an officer in the army, the patient having been born and brought up in Russia, where she had contracted the disease. The entire scalp was occupied by heaped-up, whitish-grey masses, without the characteristic yellow scutula, but with the typical fungus of favus. The hair had greatly thinned, and there were patches of cicatricial atrophy here and there on the scalp. There were also scaly patches of similar appearance on the abdomen and back of the patient, which also gave the characteristic fungus. The disease had persisted for at least fifteen years in spite of much treatment, which had, however, been confined to local ointments applied to the scalp; she had not had X-rays. The case was unusual in the class

of the patient affected, the clinical appearances of the disease and absence of yellow scutula, and the considerable involvement of the smooth skin.

(3) A case of *Xanthoma planum* in a woman, the subject of chronic cirrhosis of the liver (apparently not malignant disease), for which she was under the treatment of the exhibitor's colleague at St. Mary's Hospital, Dr. W. H. Willcox, to whom his sincere thanks were due for the permission to show the case. The woman was small, feeble and much wasted, and showed the remarkable appearance seen in the photograph. The face was deeply pigmented from chronic jaundice, with the exception of the eyelids and skin surrounding the eyes, which were the seat of Xanthoma planum. There were also scattered small patches of xanthoma near the mouth. There was pigmentation as well as large patches, with some striæ of xanthoma, on the flexor aspect of both elbows. There were no tumours which could justify the term "Xanthoma tuberosum." The condition has persisted for about two years. There was pronounced enlargement of the liver, and there had been ascites, from which she had now recovered.

Dr. J. M. H. Macleod showed a case of *pseudo-pelade* (Brocq) or *cicatricial alopecia* in a man, aged 34 years, affecting chiefly the vertex of the scalp. The patient was a healthy looking man, employed as a linotyper. He had always enjoyed good health and never suffered from lead-poisoning, which is not uncommon in those engaged in his occupation. Three years ago a patch of baldness about the size of a thumb-nail appeared on the vertex of his scalp, and since then his hair has been slowly falling out. Three months ago a marked defluvium set in, which had progressed rapidly since then. There was no history of illness preceding the rapid falling out of the hair, nor any subjective symptoms associated with it, such as neuralgia of the region of the scalp affected. On exhibition the baldness was observed to be of a peculiar type and different from Alopecia areata. Over the whole of the vertex, extending forward to the forehead and down to the ears at the sides, were numerous atrophic areas coalescing to form irregular patches; at the margins of these and spreading into them were tufts of hairs and a number of pin-head-sized pits where hairs had fallen out. There was no definite inflammatory disturbance noticeable, either in the form of erythema in the atrophic patches or pink areolæ round affected hairs, but there was a seborrhoic scaly condition affecting the whole scalp more or less, but chiefly located at the mouths of the follicles, where the hairs were loose and about to fall out. In these situations there were conical greasy scales, forming plugs, suggestive of those of Keratosis follicularis in appearance, though not horny. The greasy scales seemed to precede the falling of the hair, after which a pit was left, which gradually disappeared as the skin became atrophic. There were no short stumps present like those of Alopecia areata. The affected hairs came out readily on being pulled, and presented a swollen, moist root sheath adherent to the intra-follicular portion, or, where the affection had persisted longer, the root sheath had dried up to form a cheesy powder, while the deeper portion of the root was denuded, and tapered like a "point of exclamation" stump. The hairs of the beard, moustache and eyebrows were not affected. Several affected hairs were epilated, and the intra-follicular portions chopped up and planted on agar, but with negative results.

The PRESIDENT said he thought that in connection with the last case of the kind shown an injustice was done to Brocq, who really was the original describer of it. In such cases the persistent use of parasiticides did good, but the present case was a very rapid one.

Dr. WHITFIELD showed a man suffering from *secondary syphilis* and exhibiting some unusual features of the eruption.

The patient, aged 27 years, had acquired a hard chancre four and a half months ago, and the remains of it were still to be seen. About three months later a large papular eruption, the stains of which could be seen here and there, had broken out and disappeared without treatment. A month later, *i. e.* a fortnight ago, the edges of his eyelids had become sore, and he attended at the eye department of the Great Northern Central Hospital. Dr. Coates had seen him there and sent him on to Dr. Whitfield, as the case seemed rather one of cutaneous than ophthalmic disease.

When first seen the lids of both eyes were bright red and swollen, and there had been some loss of lashes. The redness was limited to the ciliary margins and about a quarter of an inch beyond, and showed a very distinct and somewhat gyrate edge, where the swelling also abruptly ceased. The surface of this red zone was dry and shiny, and the swelling gave the sensation of marked infiltration to the palpating finger. The diagnosis of syphilis suggested itself, and further evidence was sought. It was then found that there was a slight warty papule in each naso-labial fold. There was also a moist papule on the inner surface of the lower lip and a characteristic early syphilitic angina. The man said that he had no eruption on the body, but on stripping him he was found to be absolutely covered on all sides of the trunk, the arms down to the elbows, and the thighs down to the knees with an extremely profuse eruption of minature follicular papules gathered into groups of the size of a threepenny-piece. None of these showed any signs of suppuration, but many carried small, spiny horns. When shown the eyelids had already flattened down a good deal. Dr. Whitfield said he showed the case first because he had never seen this peculiar infiltrative syphilitic blepharitis before, and secondly, because it was such an excellent example of the miliary follicular syphilide. No member present seemed familiar with the blepharitic eruption.

CURRENT LITERATURE.

FRAMBŒSIA TROPICA (YAWS. PIAN. BOUBA). ALDO CASTELLANI. Sixth Intern. Dermat. Congress. New York. September 9th–14th, 1907. (*Journ. Cut. Dis.*, April–May, 1908, vol. xxvi, No. 4–5, illustrated.)

THE author commences this interesting paper, which we report at some length. by a list of the local names by which the malady is known, and then discusses the geographical distribution and history.

The symptomatology he finds to be in many respects very analogous with syphilis. After an incubation period of two to four weeks, often characterised by malaise, rheumatoid pains, headache. and irregular rises of temperature. a *primary lesion* appears at the seat of inoculation, generally extra-genital, and in the author's experience of several hundred cases always so. Parents generally contract the disease from their children. The primary sore is a papule. which after about a week becomes moist and then crusted, and these sores may be multiple and confluent. or the original lesion may become surrounded by secondary ones. An ulcer forms beneath the sore with clean-cut edges and granulating fundus. This ulcer may heal, leaving a scar, or develop into a granulomatous mass (mother-yaw). The inoculation often takes place in some larger or smaller breach of surface, so common in the tropics. In females Castellani found the primary lesion most commonly on the mammæ, sometimes just above the hip. from the way in which the Ceylon women carry their children. In adult males and children the primary sore occurs anywhere. often on arms. hands and legs. As a rule it heals before the evolution of the secondary symptoms. but it may last several months.

There is an indolent bullet-like induration of the proximal glands, and often the cervical and inguinal glands. The *secondary stage* is characterised by a general eruption evolving between one and three months after the first appearance of the primary sore, and is often preceded by febrile disturbance, malaise, headache, myalgia, and joint and bone pains. The eruption is formed of pin-head-sized, rounded papules, some soon showing a yellow point or minute apical yellow crust. Most papules remain thus for weeks until their disappearance, leaving occasionally some furfuraceous patches. Others enlarge, may coalesce, and acquire a dark areola in natives, a reddish one in Europeans. Some, again, enlarge into granulomatous-looking, encrusted nodules, with coarse red or yellowish fungoid granulation beneath the crust. The yaws granulomata are very rare on the scalp, but extremely common on limbs and the face, where they may be grouped in rings round the mouth as round the anus.

In the majority of cases, with three to six months in children and six to twelve months in adults the lesions involute, leaving persistent dark hyper-pigmented spots. Sometimes individual lesions are long lived and the granulomatous eruption as a whole may persist for years, new crops succeeding. The eruptions often itch, but are only painful in certain situations. The patients exhale a peculiarly offensive odour, and Castellani has especially noted this when there is a secondary infection with bacilli of Vincent's type and coarse spirochætes.

An average ordinary case will present in addition to yaws granulomata, numerous small reddish papules with the epidermis intact; others moist, with a thin yellow crust, several furfuraceous patches and dark macules. Ulcers may form and reddish papillomatous masses. Further, in the later secondary stage peculiar roundish, or irregularly outlined whitish patches, with epidermic plugs are present. Peeling whitish patches like syphilides may occur on the palms and soles.

The author has not noticed any alopecia. Mucous lesions are not very common, but small nodules may develop at the base of the tongue, and also whitish patches. Small ulcers may form in the nose and vagina, and very rarely in the larynx. Large and small articulations, single or multiple, may become swollen and painful, simulating rheumatism. Muscular contracture is fairly common, and the author suggests it is due to an implication of the peripheral nerves. Neuritis may be observed and local symmetrical hyperidroses. Castellani has seen two typical cases of iritis in the secondary period. The physical and chemical characters of the cerebro-spinal fluid did not show much variation from the normal. Blood examination disclosed some anæmia.

With the secondary stage the disease may apparently end, but tertiary lesions may occur sometimes with the secondary or afterwards at various periods. The tertiary lesions are gummatous-like nodules of the skin and subcutaneous tissues, and deep ulcerative processes. Grouped nodules may form serpiginous ulcers. Circumscribed nodes of bones are frequent, and a diffuse chronic periostitis may be seen. Tertiary lesions of the internal organs and of the central nervous system have not been described.

Castellani confirms the conclusions of Unna, Jeanselme, Macleod, and Plehn as regards the histology, and finds a very diffuse plasma-cell infiltration, the plasma cells retaining their original type better than in any other granulomata. The papillæ are much elongated, their blood-vessels being dilated but rarely thickened. At a certain age a well-marked hyperkeratosis is noticeable. In films from granulomata stained by Leishman's method the author found a large number of polychromatic red blood-cells of varying size, staining deep or light blue instead of pink and sometimes granular. The leucocytes contained in their protoplasm nuclear bodies which are thought to be polychromatic micro-erythrocytes engulfed by phagocytes.

After reviewing the bacterial finds in yaws he describes his *Spirochæte pertenuis*, and mentions that Borne has detected spirochætes in forty-nine cases out of fifty-two examined. The difficult staining spirochæte gives good results by Leishman's method provided the alcoholic solution is allowed to act for five minutes and the subsequent admixture with distilled water for half an hour to several hours. Giemsa's stain is also successful. Castellani considers the organism to be a *treponema* rather than a spirochæte. In non-ulcerated lesions the *S. pertenuis*, so very like the *S. pallida*, is the only germ found, but in ulcerated lesions there are innumerable bacteria and several kinds of spirochæta.

Then comes a note of Paulet's inoculation in 1848; of the investigation of Charlouis in 1881, who successfully inoculated syphilis in a native suffering from yaws; the observation of Powell who described syphilis supervening on yaws; and the results of inoculation of yaws in monkeys by Neisser, Baerman, and Halberstadter, from which it appeared that monkeys immunised for syphilis do not become immune for yaws. To this the author adds his personal experimental investigations. Eight monkeys of the genus *Macacus* and eleven of the genus *Semnopithecus* were inoculated with scrapings from the eruptive elements of yaws, and successfully in five of the first genus and nine of the second. The incubation period varied from sixteen to ninety-two days, and the lesion developing at the seat of inoculation was an infiltrated spot slowly increasing in size and soon becoming moist and encrusted. In three cases only did other eruptive lesions evolve later.

Further, he proved that monkeys can be successfully inoculated with the venous and splenic blood of yaws patients, though he had not been able to detect the organism in the blood or cerebro-spinal fluid. Inoculations with the latter were unsuccessful. Filtered yaws' virus failed to communicate the disease. A species of *Macacus* after being successfully inoculated with yaws was inoculated with scrapings from a syphilitic primary sore, and a lesion resulted and enlarged glands, but no general eruption as is usual with monkeys of a low type. Another species of *Macacus* was inoculated on one eyebrow with yaws and on the other with syphilis and a sore produced in each case. Yaws was transmitted from monkey to monkey in three cases. The incidence of the *S. pertenuis* in monkeys inoculated with yaws and in man suffering from yaws is compared, and was found to be practically constant in the eruptive elements, but though the monkeys experimented with did not suffer from a general eruption the generalisation of the infection was shown by the presence of the *S. pertenuis* in the spleen and glands. The histological structure in experimental yaws was found to be practically identical with that of human yaws. The Bordet-Gengou reaction showed that yaws antibodies and antigen are different from those of syphilis. From the examination of flies after feeding on yaw scrapings, Castellani thinks there is little doubt that, in certain cases, insects may carry the disease, and this view was confirmed by one experiment on a monkey.

The differential diagnosis from *Verruga peruviana*, from *Bubas*, which Rivas thinks identical with yaws as he has found the *S. pertenuis*, from syphilis, which is a distinct disease, is briefly considered, also the prognosis and the treatment. Castellani is convinced potassium iodide (at least 3 or 4 grammes daily) is the most effective treatment; mercury is useful, especially in children, but less efficient. T. C. F.

HYDROA PUERORUM (UNNA). Drs. MARCUS HAASE AND ROSE HIRSCHLER. (Sixth Intern. Dermat. Congr., September, 1907, and *Journ. Cut. Dis.*, May, 1908.)

THE authors describe a case seen in Unna's clinique and pronounced to be typical. The patient was an English boy, aged 8 years, first attacked in infancy, and suffering from recurrences at irregular intervals until seen by the recorders. The later attacks were less severe than those in the second and third years. The general health was unimpaired. Attacks occurred both winter and summer; at first the head only was excepted, but later the eruption involved the face slightly on two occasions. The attacks observed by the authors commenced in irregularly outlined, intensely itching and burning erythematous patches, varying in size from a pin head to a thumb-nail, and became capped by minute tense vesicles, which generally coalesced to form bullæ, and finally were encrusted. The crust fell in a few days, leaving red stains but not scars. Only one lesion appeared on the cheek, but many were disseminated over the trunk and extremities; none on ears or hands.

Section of a lesion disclosed an acute inflammatory eruption leading to vesiculation, but not intense enough to cause a sudden sharp uplifting of the epidermis *in toto*. Intense intercellular œdema of the epidermis was present, gradually forming vesicles with rupture of some cells. Leucocytes and mast cells were present, but no eosinophilia. No connection could be traced with the coil glands The blood showed a normal number of red corpuscles, and no increase of eosinophiles.

The authors protest against the inclusion of Hydroa puerorum in Hydroa vacciniforme by various English and American authors. They do not agee with Unna that it is a form of Duhring's disease. It is an acute erythemato-vesicular disease preceded and accompanied by intense burning and itching, the vesicles coalescing in the rete to form bullæ, but not leaving scars. The first attack occurs in the first year of life, and only in males. Recurrent attacks, unrestricted to any particular region, occur independent of external influences, and gradually lessen in extent, intensity, and duration, and finally a spontaneous cessation takes place at puberty. The health is unimpaired.

T. C. F.

THE DIFFERENTIATION OF THE STAPHYLOCOCCI. LEONARD S. DUDGEON. (*Journ. of Path. and Bact.*, January, 1908.)

IN 1906 Andrewes and Horder differentiated the streptococci by means of Gordon's tests into several varieties. The staphylococci have been differentiated chiefly by the pigmentation produced (*S. albus*, *aureus*, and *citreus*). Welch isolated from the skin a special white staphylococcus (*S. epidermidus albus*), but Dudgeon says the differentiating tests employed are of little or no value at the present day. From Wright's vaccine experiments and other work it seems probable that there are as many different varieties of staphylococci as there are of colon bacilli. Mervyn Gordon (*Report Local Government Board*, 1906) made extensive investigations of staphylococci present on the skin and scalp of normal individuals. Sundry were not virulent for mice and guinea-pigs, and all were Gram positive. The most frequent staphylococci of the normal skin are of the "*albus*" class. By nine differential tests he found that the *S. albus*, which occurs most frequently on the skin of the hand, forearm, and cheek, gives a positive reaction with seven of the nine differential tests, but fails to acidify mannite and to peptonise milk. The cultures from the scalp yielded in the largest proportion two different kinds, the staphylococcus first mentioned and another which only reacted positively to two tests (the reduction of nitrate and the acidification of mannite), and was specially distinguished by a negative reaction with maltose. Gordon concluded that there is a staphylococci, probably Welch's *S. epidermis albus*, frequenting the epidermis of the hand, cheek, scalp, and forearm with such persistency that it may be considered characteristic thereof, in much the same way as *B. coli* of the large intestine and the *Streptococcus brevis* of the mouth. It forms a white growth on agar, clots milk liquefies gelatine, produces green fluorescence in neutral red broth (grown anaërobically), reduces nitrate to nitrite, acidifies maltose, lactose and glycerine, but not mannite. Dudgeon endeavoured to differentiate the staphylococci by means of various methods based on the researches of Gordon, Leishman, Wright, and others, and comes to the following conclusions.

All staphylococci are probably members of one species, and they vary, as shown by Gordon's tests and the serum tests, not only in the relationship of the *S. aureus* to the *albus*, but also to the different strains of *S. aureus* and *albus*. This close relationship is emphasised by Gordon's tests and proved by the agglutination tests and the opsonic and specific opsonic experiments detailed. Broadly, the staphylococci isolated from pathogenic sources give more positive reaction with Gordon's media than do those obtained from normal skin or scalp. The only classification to be recommended, notwithstanding certain fallacies brought about by changes in the pigment, is one based on the nature of the pigment which these cocci produce, as shown in cultures obtained *direct* from the tissues. Mild inflammatory lesions are due to the *S. albus*, but acute bone affection, and to a less extent suppurative cutaneous and subcutaneous lesions, are caused by the *S. aureus*. The latter is usually obtained from pathogenic sources; the *S. albus* is commonly found in normal tissues. Whether the *albus* can give rise to the *aureus* is a question of great interest. It is of practica, importance to note the author's conclusion that an infection due to one staphylococcus may not respond to a vaccine made from another, even when isolated from a similar source, while it may react to the patient's own organism.

T. C. F.

THE LOCALISATION OF SPIROCHÆTES IN THE PAPULES OF YAWS. THEODORE SHENNAN. (*Journ. of Path. and Bact.*, January, 1908.)

SHENNAN stained sections from a perinæal papule of six months' standing by Levaditi's original method. The spirochætes were found with few exceptions in the epithelial layers, getting less numerous towards the corium, and, according to the author, invaded the skin from the surface. In syphilis the spirochætes are found constantly in the corium and passing upwards into the deeper layers of the epithelium. After locating the spirochætes in a silvered section the silver may be removed by a 10 per cent. solution of potassium ferrocyanide, followed by 25 per cent. solution of soda hyposulphite. and the section then stained in the usual way. as by Leishman's method. Schüffner (*Münch. med. Woch.*, July 9th, 1907) also demonstrated the organism *in situ* by the silver method of Bertarelli and Volpino.

T. C. F.

A DERMATITIS DUE TO THE IRRITATING EFFECTS OF METOL. Nathan T. Beevo. (*New York Med. Journ.*, September 12th, 1908, p. 506.)

Metol, a systematic compound (mono-methyl paramido-phenol sulphate) in the form of a white crystalline powder, is employed in photography as a reducing agent in developing, and is extensively used by amateurs as it is the active agent of many of the prepared developing powders. That it is capable of producing irritation of the skin has been known for years among photographers. The clinical picture produced by the drug is an ordinary acute dermatitis similar in appearance to ivy poisoning, but usually limited to the fingers and showing no inclination to spread by contact or auto-inoculation. In mild cases there is erythema, and itching followed by desquamation; in severe cases vesiculation occurs. When the disease covers large areas, such as the backs of the hands and forearms, there is usually a slight rise of temperature during the early stages of the dermatitis.

J. M. H. M.

A CASE OF MYIASIS. J. H. Harrison. (*Journ. Trop. Med. and Hygiene*, October 15th, 1908, p. 305.)

In this contribution a characteristic case of myiasis of the skin is reported, in which the larvæ of the *Lucilia macellaria* (a fly, common in both North and South America) were found in large numbers in the lesion. The patient was a negro woman, aged 50 years, who came to the hospital at Honduras suffering from an ulcerated condition of the right cheek. In that region there was a large foul ulcer exposing the bones of the face and forehead, and destroying the tissues of the cheek and face of the right side, and implicating the right eye and orbit. In this cavity large numbers of the larvæ were seen wriggling about. These larvæ are known as "screw-worms." The lesion was syringed with chloroform water, and over 100 worms were got out at the first sitting. The patient gradually sank as a result of the lesion, and died about a month after admission to the hospital. Another case is also reported in which great destruction of the tissue of the nose had taken place. In this case there was no history of the surface of the skin being broken, and the fly must have deposited its eggs in the anterior nares.

J. M. H. M.

REVIEW.

A SYSTEM OF SYPHILIS.*

THIS volume is the first of six volumes of *A System of Syphilis*, which promises to be the most complete of any work on the subject which has yet been published. The descriptions of the different branches of the subject have been entrusted to writers of great experience, several of whom are recognised experts with a world-wide reputation, such as Metchnikoff, Osler and Mott. All the branches of the subject are to be dealt with with a completeness not previously attempted, and even such side issues as "syphilis and life insurance" and "syphilis in its medico-legal aspects" are to have special sections devoted to them in this comprehensive work. The whole has been fittingly dedicated to the memory of Fritz Schaudinn and to Alfred Fournier, Erich Hoffmann, and Jonathan Hutchinson.

Volume I deals with the history, microbiology, general pathology, and the primary and early secondary lesions of acquired syphilis, and with congenital syphilis as a whole. An introduction has been written by Sir Jonathan Hutchinson, which will be read with the greatest interest, for it contains the mature conclusions of the writer derived from many years of keen observation and study of the disease in all its phases. The history of syphilis is presented by Iwan Bloch, of Berlin. According to his researches it was during the last decade of the fifteenth century, namely about the year 1493, that syphilis first appeared in the old world. It seemed to have first attracted attention in Europe when the French, under Charles VIII, sojourned in Italy. From there it spread into the neighbouring countries with "a rapidity and malignity only comparable to the intensity of the disease when introduced into a virgin country." According to various writers syphilis is of American origin, and is believed to have been brought over to Europe by the Spaniards and Indians on the return of Admiral Don Cristobal Colon with the news of the discovery of the West Indies. It was probably introduced into the British Isles by English soldiers returning home affected from Italy, where they had been fighting as mercenaries.

The microbiology of the disease is discussed in detail by Metchnikoff. He refers at the outset to the interesting fact, which is not generally known, that Donné, in 1837, described certain vibrios in the pus from vulvar chancres, which he (Metchnikoff) considered might correspond to the *Spirochæte refringens* of Schaudinn. This observation is specially remarkable, as it was made before Pasteur showed that fermentation was due to the activity of a microbe, and at a time when the part played by micro-organisms in the causation of disease was unknown. After referring to the different microbes which have from time to time been put forward as the cause of the disease, but whose claims have not been established, the writer gives a minute description of the *Spirochæte pallida* of Schaudinn and Hoffmann. This micro-organism he regards as the causal agent. The many arguments which he cites in favour of this contention are now so well known that they need not be dwelt upon. Against it is the fact that so far the *S. pallida* does not fulfil the whole of Koch's postulates. But, as Metchnikoff points out, the same argument might be advanced against the spirillum of relapsing fever and the trypanosome of sleeping sickness, and as these micro-organisms are generally accepted as the pathogenic agents, why not the spirochæte also? As regards the vexed question as to whether the spirochæte is a bacterium with cilia or a flagellated protozoon the writer does not offer a decided opinion, and until this matter is settled he prefers to retain the old name spirilla for these micro-organisms. This section is illustrated by a series of photographs and coloured plates, from specimens lent by Lieut.-Col. W. B. Leishman, which greatly enhance its value.

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* *A System of Syphilis*. (In six volumes.) Edited by D'ARCY POWER and J. KEOGH MURPHY. Volume I. Oxford Medical Publications: 1908. Henry Frowde, and Hodder & Stoughton. Price £2 2*s*.

The general pathology of syphilis is described by Dr. F. W. Andrewes, who also accepts the spirochæte as in all probability the cause of the disease. He gives an account of the serum-diagnosis of syphilis and of the work of Wassermann, Neisser and Bruck in this connection. The primary and early secondary lesions in the male and female have been described respectively by Col. F. J. Lambkin, R.A.M.C., and Mr. Arthur Shillitoe. One of the leading features of these clinical chapters is the excellent series of direct colour photographs which illustrate them. These photographs are of exceptional merit and give evidence of the important part which colour photography is likely to play in the illustrating of dermatological works in the future.

The subject of congenital syphilis has been dealt with by Dr. G. F. Still in a complete and most readable fashion, and the chapters on this subject conclude the volume, which, as a whole, is admirable.

LIST OF BOOKS, PAMPHLETS, ETC., RECEIVED.

From HENRY KIMPTON, London, 1908. *The Ready Reference Handbook of Diseases of the Skin.* By GEORGE THOMAS JACKSON, M.D. Sixth edition. Price 14*s*.

From the *Medical Review*, London, 1908. *An Analytical Index of Volumes I to X of the Medical Review and a Digest of the Facts Important to the Practitioner in the Medical Periodicals of the World*, 1898–1907. Price 7*s*. 6*d*. net.

From J. STEINHEIL, Paris, 1909. *Syphilis Osseuse.* By Dr. LOUIS SPILLMANN. Price 3*fr*. 50.

From CASSELL & CO. LTD., London, 1908. *Diseases of the Skin.* By Sir MALCOLM MORRIS, K.C.V.O. Fourth Edition. Price 10*s*. 6*d*.

From FERDINAND ENKE, Stuttgart, 1908. *Physikalische Therapie der Geschlechtskrankheiten.* By Dr. K. Ulmann. Heft 21A, price 4*m*. 60. Heft 21B, price 50*m*.

From CASSELL & CO. LTD., London, 1908. *Diagnosis of Smallpox.* By T. F. RICKETTS, M.D., M.R.C.P., and J. B. BYLES, M.B., F.R.C.S. Price 21*s*.

From JULIUS SPRINGER, Berlin, 1908. *Verhandlungen der Deutschen Dermatologischen Gesellschaft.* Tenth Congress at Frankfurt, June, 1908. Price 18*m*.

THE BRITISH
JOURNAL OF DERMATOLOGY.

FEBRUARY, 1909.

ON NAPKIN-REGION ERUPTIONS IN INFANTS; WITH REMARKS UPON SOME RECENTLY PUBLISHED PAPERS RELATING TO THESE AFFECTIONS.

By H. G. ADAMSON, M.D.Lond., M.R.C.P.,
Physician-in-Charge of the Skin-Department, St. Bartholomew's Hospital;
Physician for Diseases of the Skin, Paddington Green Children's Hospital.

I. So-called "Seborrhoic Eczema" in Infancy.

The following type of case is often met with in a children's clinic: The baby is a few months old; it is well nourished, and healthy except for an eruption, which has appeared within a short space of time, and which has spread very rapidly. The rash involves the whole area covered by the napkin-region in one uniform bright red sheet. For the most part it has a granular-looking surface from the presence of small, moist or greasy, yellowish scales. But sometimes, in prominent parts, the surface may be smooth and polished. The margins of the area are very sharply defined, and the border line is festooned. The area of eruption frequently extends beyond the napkin region as far as the umbilicus and down to the thighs and calves. In the flexures of the groin, between the buttocks, and in the creases of the thigh the surface of the eruption may be more or less moist. Beyond the margins of this large area there are smaller patches and also numerous pin-head-sized, red, scale-topped papules. Other parts than the napkin region are always involved. There are often similar, though smaller, shaply circumscribed areas of eruption at the bends of the knees, in the flexures of the elbows, in the axillæ, at the side of the neck, around the umbilicus, in the naso-labial fissure, and behind the ear. The scalp is invariably the seat of a red, scaly or crusted eruption, on the vertex, either in one large patch or in smaller areas, and this scaliness has been present for some time prior to the general eruption. The mother is found to have a more or less marked "Seborrhœa capitis," and sometimes she has a scaly form of rosacea.

A remarkable feature of the eruption is that, although it looks so formidable, it is readily cleared off by mild local parasiticide applications. If the infant be given a daily bath containing boric acid, and be anointed with a sulphur ointment (gr. x, ad ℥j), in a few weeks the eruption will have entirely disappeared.

The characteristic distribution of the eruption, its sharply defined margins, with outlying patches and crusted papules, is illustrated in the accompanying diagram (Fig. 1) and photograph (Fig. 2). In the photograph the extensive involvement of the face is somewhat unusual.

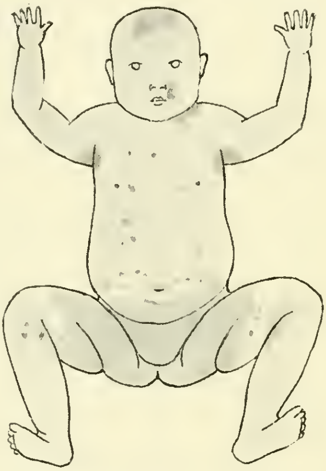

FIG. 1.—Seborrhoic dermatitis.

As to the nature of this eruption, its clinical features, and the fact that it yields rapidly to local antiseptic treatment, suggest very strongly a parasitic origin. The initial lesion is a peri-follicular papule with scaly top; and the larger areas are made up of a collection of these scale-capped peri-follicular papules, with extension of the process between the papules. It is, in fact, a typical "seborrhoic dermatitis," an eruption which Sabouraud's researches indicate as probably due to the *Staphylococcus epidermidis albus.*

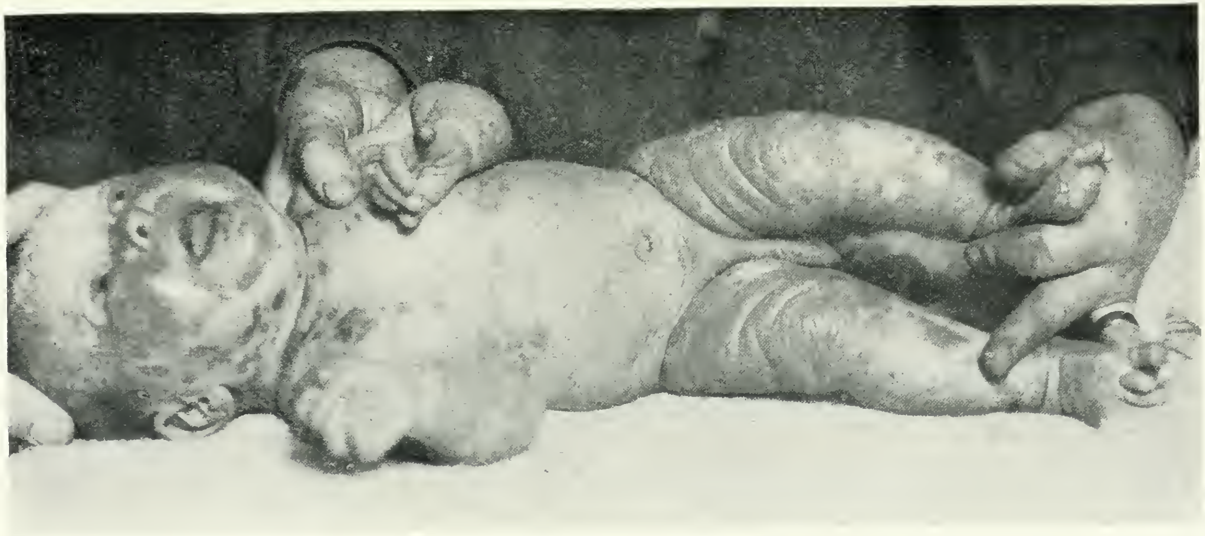

FIG. 2.—Seborrhoic dermatitis.

TO ILLUSTRATE DR. ADAMSON'S ARTICLE ON NAPKIN-REGION ERUPTIONS IN INFANTS.

I have for long been familiar with this eruption, and I have been in the habit of labelling it "Seborrhoic dermatitis of infancy."* Unna, as everyone knows, has described a seborrhoic eczema of the face and scalp in infants, but—so far as I am aware—he has not laid stress upon its special incidence upon the napkin region. It is not mentioned in treatises on skin-diseases, or on diseases of children, or at any rate not clearly differentiated from other eruptions in the napkin region.

Recently, however, a paper has appeared in the *Archives de Medicine des Enfants* (March, 1908, p. 180) by André Moussons, entitled "Erythème fessier et Eczéma séborrhéique." Moussons there describes this eruption, and also refers to a thesis (1905) on the subject written by Lebard, a former pupil of his.†

Moussons' account of the eruption is as follows: It occurs, he says, in infants of healthy appearance, whose digestive functions seem normal. At first similar to the buttock erythemas produced by local irritants, it "rapidly becomes differentiated by its extent, by its aspect, and by its evolution. Instead of remaining limited to the buttocks, it extends, and involves, in a downward direction, the internal surface of the thigh, the leg and the plantar region; in an upward direction, the sub-umbilical region in front, and the lumbar region behind. All the invaded skin surfaces are of an intense red colour, swollen, shining; the epidermis appears thinned and tense. In boys there is a little œdematous swelling of the scrotum. This redness is uniform, and in spite of the apparent thinness of the epidermic layer, excoriations and fissures are rare and weeping absent or discrete. The margin of the erythematous zones is generally very sharp; more or less rounded contours are mapped out by a sinuous line. At the junction of the healthy and the erythematous parts the epidermis is raised and detached in pieces of variable dimensions, or it forms simply a fringed border. While the large erythematous surface generally keep very exactly to the regions mentioned and are limited by sharp margins, there are always found in their neighbourhood, more or less scattered, isolated, circumscribed erythematous lesions. These vary very much in number and in dimensions. Sometimes they are pin-head-sized points, sometimes bean-sized to franc-piece-sized; they are seen on the inner surface of the thighs and of the legs, on the abdomen around the umbilicus, and in the dorso-lumbar zone. They are slightly raised, and surmounted by a proliferating or exfoliating epidermic layer. They are always dry, never vesicating." There is "invariably seborrhœa of the scalp, often also of the forehead, the eyebrows and other parts of the face. And this seborrhœa, particularly in the occipital or temporal regions, is accompanied by a slight redness and swelling, and often even a little weeping on the scalp. If this association of eczema with the seborrhœa is not marked at the first examination, it soon becomes evident. The eczema is sometimes seen in its seat of predilection in the retro-auricular fold."

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* *St. Bart.'s Hosp. Journ.*, May and June, 1906; *Skin-affections of Childhood*, 1907, p. 124; *Brit. Journ. of Child. Dis.*, June, 1908.

† "Sur un type d'érythème fessier évoluant chez les Nourrissons atteints d'eczéma Séborrhéique," by Marie Joseph Georges Lebard. Thesis, Bordeaux, 1905. Lebard here records twelve examples of the eruption. His description of the eruption, his views as to its nature and its treatment, are practically those of Moussons. It is to be particularly noted, however, that in his descriptions of cases he frequently mentions that the outlying patches have the characters of patches of seborrhoic dermatitis.

Although Moussons describes the main areas of eruption as erythematous, and shining, there can be no doubt, I think, that it is the affection here described by myself. I have sometimes seen the larger areas smooth and shining in parts (as on the face in the photograph, Fig. 2), but I think this is a secondary condition and that essentially the lesions are scaly, as those of seborrhoic dermatitis usually are.

Moussons says of this eruption, that once established, it persists with desperate tenacity, with exacerbations without apparent cause. He states that it may disappear spontaneously, or that it may spread over the whole body. He looks upon it as an eczema, to be dealt with therapeutically like other eczemas, and upon these cases he bases a suggested method of treatment by internal administration of thyroid extract. He makes no suggestion of local anti-parasitic treatment. As I have already indicated, my own view of the nature of this affection is not in accord with that of Professor Moussons. I do not regard it as eczema. Eczema in nurslings is an eruption affecting essentially the scalp and face. In the latter situations it has a characteristic mask-like distribution on the forehead and cheeks, leaving free the mouth, nose and orbits. It is markedly pruritic, it is a weeping eruption, it is made worse by the least local irritation, it is very intractable, and does not clear up rapidly with mild antiseptic applications as does the "seborrhoic dermatitis," and it does not affect the napkin-region. When one knows the difficulties of curing a characteristic infantile eczema of the face and scalp, the fact that this "seborrhoic" napkin-region eruption clears up rapidly with mild antiseptics seems alone sufficient to warrant its withdrawal from the eczema group.

Clinically, the importance of this eruption rests in its diagnosis from eczema and from syphilis, and in the recognition of the fact that it is a local infection, readily removable by local antiseptics. As a rule, the eruptions of congenital syphilis are easily distinguishable; but sometimes there is difficulty, for the lesions of syphilis may take on an aspect of "seborrhoic dermatitis," and, on the other hand, the presence of lesions around the mouth and nose in "seborrhoic dermatitis" may suggest syphilis. The main features which distinguish a case of congenital syphilis are: the sallow complexion of the infant, the presence of snuffles, of fissures of the lips, of mucous patches at the anus, the coppery tint of the eruption, and, especially, its tendency to appear as fairly uniformly sized discs (which may run together in the napkin-region, but which retain their disc-like appearance in other parts), and, often, the presence of coppery coloured lesions upon the palms and soles. Frequently the "seborrhoic dermatitis" is seen at a later age than are the eruptions of congenital syphilis.

II. Infantile Erythemas of Jacquet.

There is another eruption of the napkin-region of infants, which, in its more advanced phases, may be, and often is, confused with the eruptions of congenital syphilis. Parrot, in 1877, described these later stages of the eruption as lenticular syphilides. Lucien Jacquet, however, in 1886, in a paper entitled "Des Érythèmes papuleux fessiers post-erosifs," clearly demonstrated that the lenticular syphilides of Parrot were in reality a more advanced stage of a "simple erythema" of the buttocks of infants, and further, that these post-erosive papules might become ulcerated, forming lesions which had also been mistaken by Parrot for syphilis. Jacquet has recently given a complete account of these eruptions in the *Traité des Maladies de l'enfance* (Grancher and Comby), and in *La Pratique Dermato-*

logique—Dermites infantiles simples. He groups the various phases of the eruption as follows :

(1) Simple erythemas (*Dermite érythémateuse simple*).

(2) Erythemato-vesicular or erosive forms (*Dermite érythémato-vésiculeuse*).

(3) Papular or post-erosive forms (*Dermite papuleuse*).

(4) Ulcerating forms (*Dermite ulcéreuse*).

It must be understood that these eruptions are stages in one process, and that they may develop consecutively or co-exist in the same patient. But for convenience they are better described separately.

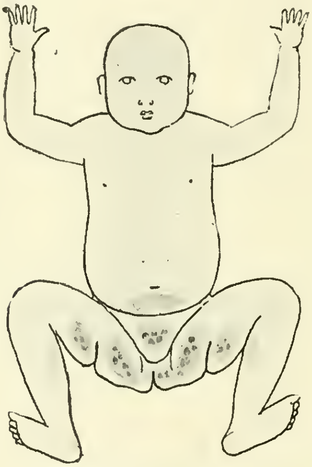

FIG. 3.—Infantile erythema of Jacquet (simple erythema).

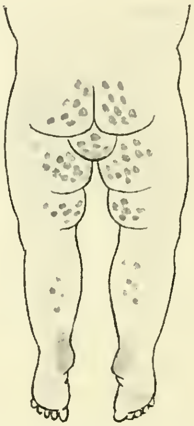

FIG. 4.—Infantile erythema of Jacquet (erythemato-papular).

(A) *Simple erythemas.*—These are characterised by an erythema occupying the prominent convex surfaces of the buttocks, of the thighs, of the scrotum or vulva, and extending sometimes on to the lumbar region, the lower abdomen, and the calves and heels. In some cases even the back and shoulders, where they form points of pressure as the child lies on its back, may be affected. In very mild cases the genitals, the inner sides of the thighs, and the perinæum may be alone the seats of the erythematous patches. The erythema forms an uniformly shining red surface upon the convex areas, usually leaving free in marked contrast the flexures and sulci between (Fig. 3). Sometimes there may be here and there weeping or bleeding excoriations, and these are liable to occur in the folds.

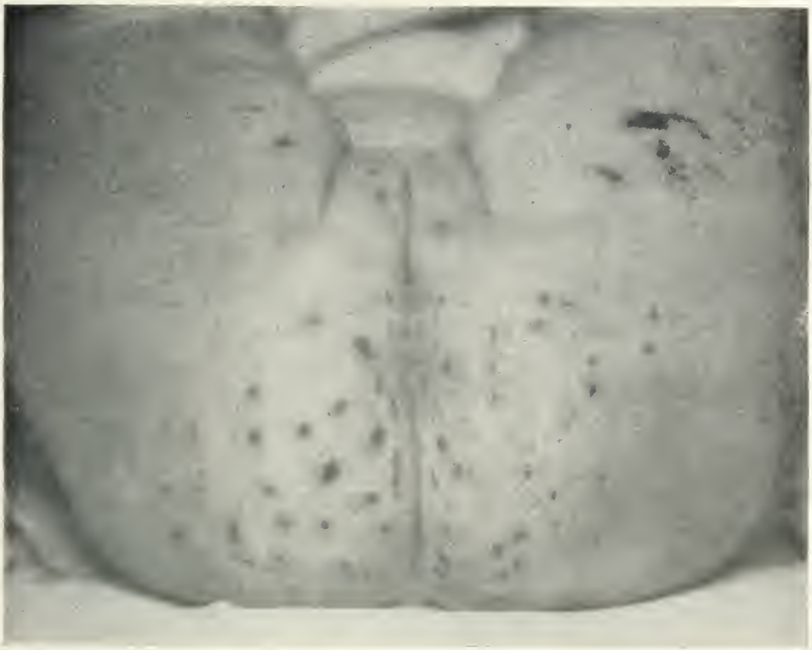

FIG 5.—Infantile erythema of Jacquet. Erythemato-papular or post-erosive form.

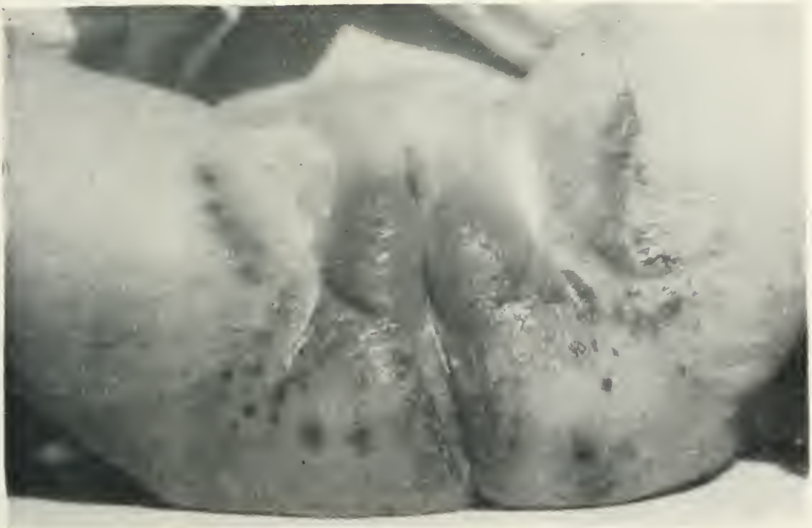

FIG. 7.—Infantile erythema of Jacquet. Erythemato-papular and ulcerating.

TO ILLUSTRATE DR. ADAMSON'S ARTICLE ON NAPKIN-REGION ERUPTIONS IN INFANTS.

This type is seen mostly in very young infants.

(B) *Erythemato-vesicular or erosive forms.*—In these there is a basis of erythema as in the first type, but in addition, towards the centre of the convex areas there are small bright-red, punctiform to split-pea-sized and disc-like erosions, in groups of two or three up to a dozen or more (Fig. 3). The erosions may coalesce and so form polycyclical areas. Generally, on close examination, towards the margins of the erythematous areas there may be found small, flat, more or less perfect vesicles, which represent apparently the early stage of the erosion, the latter being produced in the prominent parts by irritation of the primary vesicle.

This type of eruption was minutely and accurately described by Parrot. It and the succeeding type are commonly seen in babies of a few months of age.

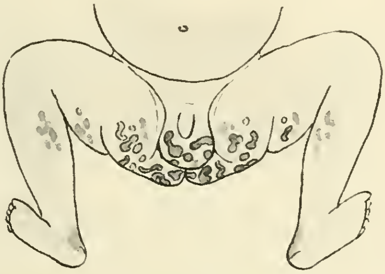

FIG. 6.—Infantile erythema of Jacquet (ulcerating form).

(C) *Erythemato-papular or post-erosive.*—This form was also carefully described by Parrot, who, however, wrongly regarded it as a syphilide (lenticular syphilide). Jacquet has demonstrated that it is really a later stage of the erosive form in which the erosions have thrown up flattened granulations, giving the lesions the appearance of papules.

This eruption occurs, like the preceding type, over the prominent parts of convex surfaces. The lesions consist of flat, bright red or dull red papules (or pseudo-papules) arranged in groups, which may or may not be set upon an erythematous base. These groups of pseudo-papules are seen upon the buttocks, the upper half of the thigh, the lower half, the calf, and on the genitals and around the anus. They are not found in the flexures or sulci dividing the convex areas (Figs. 4 and 5).*

They may be associated with erythema of the heels and of the lower abdomen (Figs. 3, 4, 6 and 8).

(D) *Ulcerating forms.*—These are less common than the preceding, although not altogether rare in hospital practice. In these cases the erosions, instead of granulating, become still further advanced, so that ulcers are formed. The ulcers are punched out, sharply margined, circular or oval, or more often running together to form vermicular or polycyclical lesions. They usually occupy the scrotum and neighbouring parts of the buttocks and thighs, being confined always to convex areas and avoiding the sulci and flexures (Figs. 6, 7, and 8). In some instances the ulcerations have exposed muscle or bone.

The nature of these eruptions.—The distribution of these eruptions upon the prominent convex surfaces suggests very strongly that they are due, in part, at any rate, to local irritation by wet or soiled napkins. But there is certainly some other factor which renders the skin susceptible. The vaso-motor system in the skin of these infants is apparently everywhere out of balance, for friction or pressure at other parts than the napkin-area will induce a localised erythema. The writer has frequently observed the association of Lichen urticatus, or that the eruption has been succeeded by Lichen urticatus. Possibly these erythemas of Jacquet are nearly related in their ætiology to Lichen urticatus. But we are as ignorant of the ultimate cause of Jacquet's erythema as we are of Lichen urticatus. Naturally some form of gastro-intestinal toxæmia suggests itself; but there is no proof of this, and in many cases, both of erythema of Jacquet and of Lichen urticatus, there is no discoverable gastro-intestinal disturbance. All that we know is that local irritation produces changes in the primary erythema which lead to the later types of eruption—erosive, post-erosive papules, and ulcerations.

The common occurrence of the erythemas of Jacquet.—When these eruptions are looked for in a children's clinic they are found to be far from uncommon, more especially the erythemata and post-erosive forms; and the more one studies these eruptions the more one

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* The anus and genitals in an infant become prominent parts when the legs are flexed upon the trunk—its normal position. Moreover, they are subject to friction and pressure by the fold of the napkin, which is brought forward between the legs.

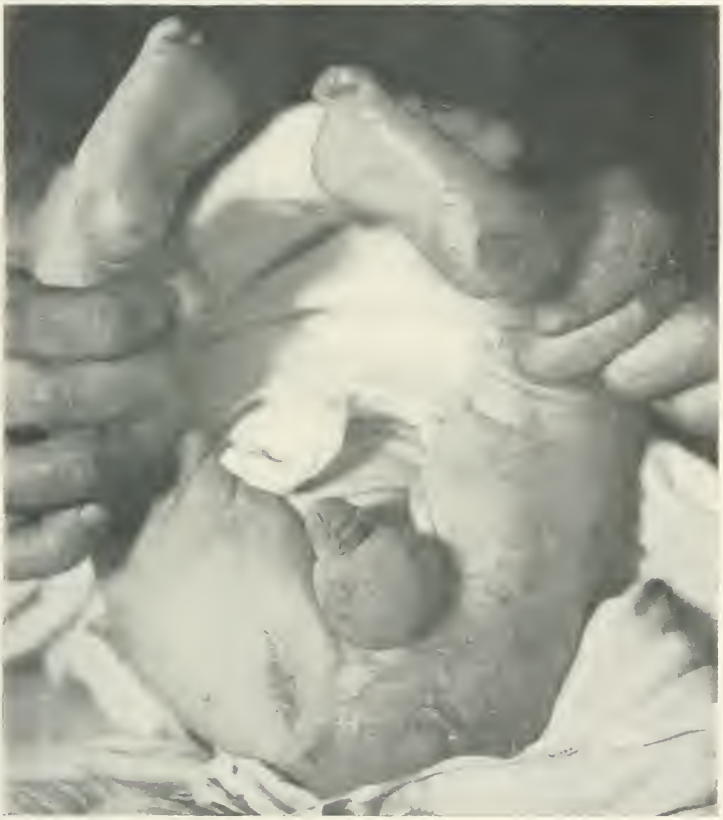

FIG. 8.—Infantile erythema of Jacquet. Ulcerating form.
Note lesions on heels and on scrotum.

TO ILLUSTRATE DR. ADAMSON'S ARTICLE ON NAPKIN-REGION ERUPTIONS IN INFANTS.

is struck with the faithfulness of Jacquet's descriptions and with the service he has rendered in isolating them and in distinguishing them from the eruptions of congenital syphilis. These eruptions have probably been known since napkins were first worn; and their individual phases have been described by Henoch, by Parrot, by Trousseau, and by others; but to Jacquet is due the credit of having put their study upon a sound basis, and of having recognised their true nature.

Histology.—Marcel Ferrand has recently made a careful study of these eruptions from a histological point of view (*Les Dermites des Nouveau-nés* [*Erythémés infantiles. Étude histologique*], *Ann. de Derm.*, April, 1908, p. 193). Twenty-five cases were examined. Biopsies were made in different regions and at different stages of the eruption. Ferrand concludes, as a result of his studies, that the name "erythema" is altogether insufficient to indicate their character. He regards them as a "dermo-epidermitis," presenting clinically and anatomically the closest resemblance to eczema, and says that they must be regarded as "eczematisations." Ferrand examines each phase minutely, and his descriptions are accompanied by most excellent micro-photographs. (*a*) In the first stage, *Dermite erythemateuse simple,* sections show œdema and infiltration of the papillary body and slight œdema of the middle layers of the epidermis, *i. e.* a *spongoid* condition, or stage of *pre-vesiculation.* There are even minute vesicles—amicrobic—just under the horny layers. (*b*) In the next stage, *Dermite érosive,* the lesion has undergone certain modifications, which are explained by the action of friction and maceration by urine, etc. There is, as before, a spongoid condition of the epidermis, but the horny layers forming the roof of the vesicle are gone, leaving the vesicle represented by a minute intra-epidermic well, which, in some instances, may just reach the derma. The larger erosions are of the same nature but more extended, the erosion corresponding to ten or twelve papillæ. In the next phase, *Dermite vésiculeuse,* the vesicles are larger and unbroken. The biopsy must be made at the front or at the outer part of the thigh, where such lesions are more commonly seen. Here, again, there is œdema of the papillary body and of the epidermis, but the vesicles (situated in the prickle-cell layer) are larger and generally project above the surface of the epidermis. When quite young these vesicles are amicrobic, though later they may become infected through a fissure or by the sweat-duct, or by the hair-follicle. Crusts due to the drying up of such papulo-pustules are seen in the section. Thus far, Ferrand maintains, the study of this eruption reveals eczematiform lesions. The interpretation of the later stages—*Dermite papuleuse*—is, he says, a matter of greater delicacy. The lesion shows hyperacanthosis, represented by long epidermic inter-papillary processes dipping down into the derma; absence of the superficial layers of the epidermis (erosion); cell-infiltration of the papillæ and of the adjacent derma—conditions such as would result from continued reaction of the epidermis and derma. Indeed, all stages of transition can be traced between the early "eczematous" lesions and the later lesions, and even in the latter, here and there, spongoid transformation of the prickle-cell layer and ruptured vesicles (*i. e.* intra-epidermic wells) can be seen.

The accuracy of Ferrand's account of the histological appearances of these lesions cannot be disputed. In his very remarkable photo-micrographs every detail of his descriptions is clearly shown. But the interpretation of these facts calls for comment. Is the finding of spongoid transformation of the prickle-cell layer, vesication, acanthosis, parakeratosis, and cell exudation and dilatation of the vessels in the papillary layer of the corium sufficient to establish the diagnosis of eczema in an affection which is clinically altogether different from an eczema? Are not these conditions found in any catarrhal inflammation of the skin? From the clinical side, the contrast of these eruptions with infantile eczema is marked. The erythemas of Jacquet are affections of the napkin region, and the face is not involved. When vesicles and erosions appear they are separated by comparatively wide intervals. There is no eruption of minute closely-set pin-point vesicles, nor continuous serous discharge over a large area. Itching is absent, or not apparent. Local irritants do not lead to exacerbations of vesication, but merely to erosion and infiltration, and, perhaps, ulceration of the existing lesions. Indeed, if one critically examines Ferrand's photo-micrographs, one sees, I think, that the spongoid condition is less marked and more localised than in eczema, and the vesicles attain a much larger size than they ever do in eczema.

Importance of these eruptions.—Apart from their intrinsic interest these eruptions demand careful study on account of the liability of their confusion with the eruptions of congenital syphilis—an error which is constantly made by those who are unfamiliar with them.

III. Vacciniform Ecthyma of Infants.

A third class of eruption in the napkin-region of infants which may be mistaken for a syphilide is one which has received the various names—"Erythème vacciniforme infantile," "Syphiloïde vacciniforme infantile," "Herpès vacciniforme," "Ecthyma vacciniforme syphiloïde des jeunes enfants" (Besnier), "Vacciniform ecthyma of infants" (Colcott Fox), "Dermatite vacciniforme des jeunes enfants" (Hallopeau and Leredde), "Varicelloid dermatosis" (Mantegazza and Pellizzari). This affection has been so recently described in this Journal (June, 1907) by Dr. Colcott Fox that I shall merely mention it here. It is admitted to be a local infection, though the organism responsible for its production has not yet been definitely determined.* It must not be confused with the erosive and ulcerative stages of Jacquet's erythema. In a recent paper by Halle (Über einen Fall von Dermatitis pseudo-syphilitica Vacciniformis infantum [Erythème vacciniforme] syphiloïde [Besnier], *Dermat. Zeitschrift*, April, 1908, p. 215), a case of vacciniform ecthyma is recorded (with coloured plate), but the author quotes Jacquet's *syphiloïde post-erosive* as the same affection. Jacquet himself points out that they are to be clearly distinguished.

IV. Bullous Impetigo of Infants.

Mention must also be made of a fourth class of napkin-area eruption of infancy, viz. bullous impetigo. The extreme type of bullous impetigo in infants is the so-called Pemphigus neonatorum in babies a few days old. But it is well known that Impetigo contagiosa of older babies is liable to take on a bullous character. In these cases the napkin region is often involved, particularly in the flexures. Generally the large bullæ become denuded of their thin epidermal roof, leaving raw red areas, the nature of which is revealed by their phlyctenular margins (Fig. 9). The eruption is seldom confined to this region, and bullæ or typical amber-crusted lesions of Impetigo contagiosa are present elsewhere.

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* The writer found streptococcus in a case of Dr. Colcott Fox, *Brit. Journ. Derm.*, June, 1907, p. 196; Mantegazza found *Bacillus coli* in the lesions, *Giorn. Ital. d. Mal. Ven. e della Pelle*, 1900, p. 208, pt. 2.

In conclusion, there are at least four distinct types of eruption involving the napkin-region in infants, which are of a non-syphilitic nature, and which must be carefully distinguished from the eruptions of congenital syphilis. These are, in the order of frequency of occurrence :

(1) The various forms of erythema of Jacquet, eruptions which appear to depend upon a vaso-motor disturbance, possibly of gastro-intestinal toxic origin, with a determining factor of local mechanical irritation.

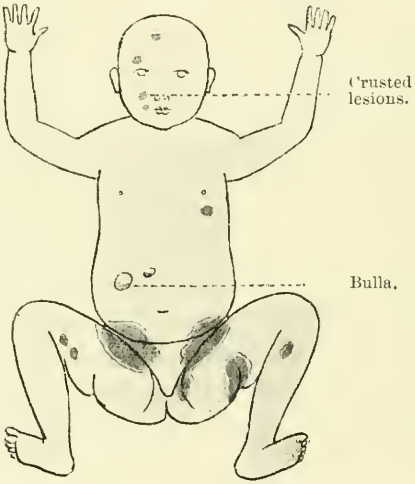


Fig. 9.—Bullous impetigo.

(2) Seborrhoic dermatitis—probably of local microbic origin.

(3) and (4) Vacciniform ecthyma (of Besnier and Colcott Fox), and bullous impetigo (a variant of Impetigo contagiosa of Tilbury Fox), both of these probably of streptococcic origin.

CUTANEOUS PIGMENTATION AS AN INCOMPLETE FORM OF RECKLINGHAUSEN'S DISEASE, WITH REMARKS ON THE CLASSIFICATION OF INCOMPLETE AND ANOMALOUS FORMS OF RECKLINGHAUSEN'S DISEASE.

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, London, and to the Mount Vernon Hospital for Chest Diseases, Hampstead.

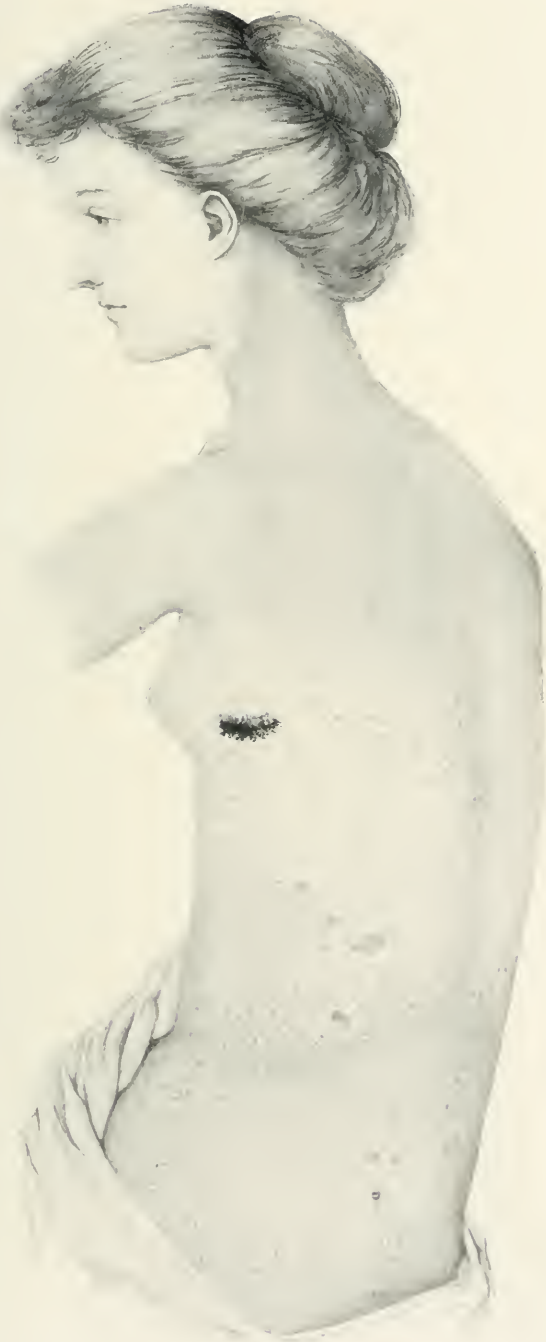
The patient, a fairly well-developed girl, was aged 14 years when I showed her case at the Dermatological Society of London, rather more than three and a half years ago, in May, 1905. The pigmentation affected the trunk and neck chiefly, and the extremities to a much lesser degree, the face being almost free. There was no evidence of urticaria, factitious urticaria, purpura, or any kind of erythema in connection with the condition. There were no areas of leucodermia. The patient (see figure, taken from a drawing by Miss Mabel Green in November, 1905), presented, roughly speaking, three different kinds of cutaneous pigmentation, namely: (1) Diffuse brownish patches, especially a large sheet of pigmentation over the upper part of the back and neck, which had a sharply defined upper border, but was ill-defined below, merging gradually into the ordinary skin; (2) brown spots and small patches plentifully scattered over the trunk, the paler ones being apparently those most recently developed; (3) a small group of very dark, almost black, spots on the left side of the thorax, resembling a group of "pigment nævi," but not raised above the general level of the skin. These last-mentioned blackish spots had been first noticed about three years previously. The earliest pigmentation noticed by the mother was at the back of the neck, when the patient was only about eighteen months old. Since that time the rest of the pigmentation had gradually developed, and fresh, relatively faint spots and patches had recently appeared on the extremities.

The patient's general nutrition was fairly good, and menstruation had lately commenced. Though she looked rather pale, examination of the blood showed nothing of pathological significance. The systolic brachial blood-pressure was found to be about 130 mm. mercury. Examination of the thoracic and abdominal viscera and of the urine showed nothing abnormal. Cutaneous sensation, kneejerks and plantar reflexes were natural. The mental development and general intelligence were up to the average. There was no pigmentation in the mucous membrane of the mouth.

The only noteworthy point in the past history of the patient was that she had always been liable to headache and bilious vomiting. But there was no tendency to fainting, such as to suggest Addison's disease. The attacks of vomiting seemed rather to have been induced by certain articles of food, such as rich, fatty things, and, at one time, raw apples. Moreover, the patient's mother, as a child and young woman, had been subject to so-called "bilious attacks," and one or two other members of the family had been inclined to similar troubles.

Apparently no abnormal pigmentation had been observed in the family, except in the patient herself. In her case, from the diagnostic point of view, it was to be noted that the pigmentation affected chiefly the covered parts of the body, and that there was no special liability to freckling from exposure to the sun. This was the reverse of what one would expect in Kaposi's "Xerodermia pigmentosa." Moreover, in the present case, the variety in the colour and form of the areas of pigmentation and their situation (mainly on the trunk) made it seem most probable that the case was an incomplete form ("forme fruste") of Recklinghausen's disease—in fact, that it was a case of neuro-fibromatosis, with typical but excessive cutaneous pigmentation, though, as yet, practically without any (superficial) tumours. There was only a single, small, flaccid, molluscous tumour to be found. This was situated in the skin on the lower part of the back, and had first been observed about three years previously. Probably no other satisfactory explanation for the pigmentation could be offered except that given, namely, that it represented an early stage or incomplete form of Recklinghausen's disease—an explanation which was first suggested in a conversation by Dr. A. Whitfield.

When I last saw the patient, in July, 1908, the previous diagnosis was confirmed by the formation of several other molluscous-like little tumours, which were developing in various parts of the skin. The pigmentation as a whole had become darker and new brownish spots had appeared. The skin of the upper and lower extremities was still relatively free, though there were some rather faint pale-brown patches on the arms and legs, larger than the ordinary macules on the trunk.



To Illustrate Dr. Weber's Case of Incomplete Recklinghausen's Disease, in November, 1905.

The face was scarcely, if at all, affected, and there was no pigmentation of the mucous membrane of the mouth. No factitious urticaria could be obtained either over the normal or pigmented areas of skin. The systolic brachial blood-pressure was 130 mm. mercury, as before. The folds of the axillæ, elbows and knees were not specially pigmented, as they probably would have been in a case of Addison's disease. Dr. Graham Little, who kindly looked at the case with me, thought that the ulnar nerves at the elbows felt slightly enlarged, but I could not satisfy myself of this.

Cases of Recklinghausen's disease or neuro-fibromatosis undoubtedly occur, in which decided pigmentation of the skin is developed long before neuro-fibromata of nerve-trunks or molluscous tumours of the skin are observed. Thus, at the Medical Society of London, on November 9th, 1908, Dr. A. S. MacNalty showed a woman under Dr. Rose Bradford's care suffering from neuro-fibromatosis, in whom pigmentation had long been noticed before any neuro-fibromata were observed. A brother of this woman was supposed to show cutaneous pigmentation without any other evidence of disease. At a meeting of the Dermatological Section of the Royal Society of Medicine on November 19th, 1908, Dr. Graham Little showed a case of Recklinghausen's disease in a boy, aged 12 years, in whom, according to his mother's account, the cutaneous pigmentation preceded the development of the tumours by six years or more. In fact, some of the pigmentation seemed to date from birth. Undoubtedly, therefore, one has to admit the existence of an incomplete form, or early stage, of Recklinghausen's disease, characterised by scattered pigmented cutaneous spots and patches, which might range in size from minute macules, one or two millimetres in diameter, to large "sheets" extending from shoulder to shoulder, and might vary in the depth of the pigmentation from faint brown to almost black.

Though, strictly speaking, the term "Recklinghausen's disease" should be confined to cases showing (1) obvious neuro-fibromata in connection with nerve-trunks, (2) molluscous tumours (mollusca fibrosa) of the skin, and (3) cutaneous pigmentation, yet incomplete or anomalous forms certainly occur in which one or even two of this triad of morbid features may be wanting. Moreover, there are likewise several cases on record in which multiple neuro-fibromata of nerve-trunks, or cutaneous neuro-fibromata (molluscous tumours), with or without cutaneous pigmentation, have been complicated by the co-existence of bony or epidermic (papillomatous) growth.

The following is a short scheme of classification for these anomalous or incomplete forms of Recklinghausen's disease :

(1) Cases of plexiform neuroma *unaccompanied by multiple molluscous tumours of the skin,* with or without cutaneous pigmentation. The swellings due to plexiform neuroma (Elephantiasis nervorum), which, perhaps, occur more frequently on the face and head than elsewhere, seem, on palpating them, as if they contained intertwined rootlets or tendrils ; and this is the reason why in Germany plexiform neuroma has been termed "Rankenneurom." Plexiform neuroma may show itself in the form of a very rare kind of macroglossia, as has been proved by the cases of Abbott and Shattock (1903) and Spencer and Shattock (1907),* a kind of macroglossia named "Macroglossia neuro-fibromatosa" by these authors.

(2) Cases of multiple molluscous tumours of the skin unaccompanied by any obvious neuro-fibromatosis of nerve-trunks, with or without decided cutaneous pigmentation.

(3) Cases of pigmentation of the skin not (at least not yet) accompanied by obvious neuro-fibromata of nerve-trunks or cutaneous neuro-fibromata (molluscous tumours). This is the form of incomplete Recklinghausen's disease with which I have already dealt. It was not specially recognised, or given a special place, in Alexis Thomson's classical monograph, *On Neuroma and Neuro-fibromatosis,* published at Edinburgh in 1900.

(4) Anomalous cases of neuro-fibromatosis, complicated by the co-existence of bony or epidermic (papillomatous) changes. Benaky† described an example of this class under the heading "general neuro-fibromatosis, with molluscum pendulum of the right side of the face." In his case there were deformities of the cranium, vertebræ and tibia. In February, 1906, Mr. Ludford Cooper brought forward a case at the Ophthalmological Society, which he described as neuromatous elephantiasis, in a girl, aged 11 years. In Cooper's case the outer and lower portions of the frontal bone and the squamous portion of the temporal bone were much more prominent on the

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* Abbott and Shattock, *Path. Soc. Trans. Lond.*, vol. liv, p. 231 ; Spencer and Shattock, *Proc. Roy. Soc. Med.*, Pathological Section, vol. i, p. 8.

† *Ann. de Derm. et de Syph.*, November, 1904, p. 977.

affected than on the other side. In 1901 Sir Jonathan Hutchinson[*] described and figured the case of a woman with multiple molluscous tumours of the skin, whose right cheek was bulged by bony overgrowth; the right frontal bone was likewise thickened, and the right eye was pushed forward as if by bony growth behind it. At the Society for the Study of Disease in Children, in April, 1907, Dr. Fletcher Beach[†] showed a case, described as one of Recklinghausen's disease, in a boy aged 5 years and 10 months, who apparently also had bony thickening in the right temporal region. The most extreme example of this class was doubtless the famous "elephant man," whom many must have seen when he was at the London Hospital. Sir Frederick Treves,[‡] in his description of the "elephant man," mentioned that the deformities of the osseous system were limited to the skull, right upper extremity, and feet. "The proportions of the head were enormously increased, and its general outline was that of a hydrocephalic skull." There was exuberant papillomatous growth of some parts of his skin.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, January 21st, 1909, Dr. H. RADCLIFFE-CROCKER, President, in the Chair.

The PRESIDENT remarked, as an interesting fact arising out of the case of venous nodules which he showed at the last meeting of the Section, that the case had developed to show symptoms of secondary syphilis.

He also said there had been in the University College Hospital a case of Pemphigus vegetans, which had died without the development of the vegetations. All the other symptoms, in the mouth, throat, raw surfaces, etc., were characteristic. But in the patient, a woman, there had not been time for granulomatous lesions to develop.

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[*] *Polyclinic*, London, July, 1901, p. 12.

[†] *Reports of the Society for the Study of Disease in Children*, London, 1907, vol. vii, p. 167.

[‡] *Path. Soc. Trans. Lond.*, 1885, vol. xxxvi, p. 494.

Dr. J. L. **Bunch** showed a case of *urticaria with pigmentation.*

The patient, a little girl, aged 19 months, was born in America, and had only been in England three months, having crossed from America direct. The lesions had been negligible until her arrival in England, but since that had been present in considerable numbers, first on the arms, and later on the trunk, legs, thighs, and especially on the buttocks and back. They consisted of pigmented patches and papules, the latter being somewhat erectile when rubbed, and always leaving a yellowish-brown stain when they subsided. None of the pigmented areas had, according to the mother's account, disappeared during the past three months, but every one which developed had become permanent for this period at least. Some factitious urticaria was present, and when an urticarial exacerbation showed itself the child complained a good deal of itching. Dr. Bunch was inclined to regard it as a case of Urticaria pigmentosa, but had only seen the case once, and so far had had no opportunity of making a biopsy. He proposed, however, to excise a piece of skin and examine for mast-cells.

Dr. J. J. **Pringle** said that he considered the case to be one of Urticaria pigmentosa. Many members dissented from this diagnosis.

Mr. G. W. **Dawson** showed (1) a case of *Fragilitas crinium* associated with knotting of the hair in a young woman, aged 28 years. She has a healthy appearance, but suffers from a mild dyspepsia and neuralgia.

The condition began seven months ago, when she noticed the hair breaking off close to the scalp, particularly over the region of the posterior parietal bones, where the hair is only one or two inches long. On some of the latter were found nodular swellings, which on microscopic examination proved to be half-hitch knots situated one to two inches from the root of the hair.

There was seborrhœa of the scalp and face and hirsuties of the latter.

(2) A case of *Lichen planus* occurring in a healthy-looking woman, aged 48 years, principally on the body. It began nine months ago. Two months since she complained of her mouth being sore.

The buccal mucous membrane was covered by extensive white patches slightly raised; the lips and sides of the tongue were also affected in a milder degree. The pain and discomfort in the mouth was considerable.

Dr. Graham Little showed (1) *a case for diagnosis.* The patient was a man, aged 36 years, a mechanic by trade, who for two years had shown pronounced symptoms of tabes, for which he had been treated with iodides and mercury, on the assumption of the syphilitic causation of tabes, by Dr. Montague Smith, to whose courtesy Dr. Little owed the case. There had been no actual syphilis while the patient had been under observation. Eight weeks ago, however, a new development occurred; an acute eruption of bright circinate patches, with intense itching, had come out all over the lower extremities from the level of the pubic arch in front and the level of the sacrum behind to the feet. The lesions consisted of raised red rings, the size of a florin, and gyrate figures distributed very copiously in the areas named, so as to form almost a continuous mesh-like tracery on the lower limbs. Individual lesions had persisted for at least the four weeks during which the patient had been attending St. Mary's Hospital; the edges had become paled somewhat, and were scaly, the area of skin in the centre having rather a buff colour. The scales had been examined for ringworm fungus with negative result. Excessive itching was felt, so that the patient was kept awake, and the skin in the affected area lacerated with scratches. The parts of the body above the limits of the pelvic girdle were quite free from eruption. The coagulation period of the blood was lengthened, being 2 min. 35 sec. The symptoms of tabes were very marked; the patient swayed when not supported, and he had become totally blind.

The President said that he did not regard the appearance as characteristic of syphilis, but thought it might be due to spinal trouble. There was formication. Pruritus was very well known in association with tabes, and he would regard it as an anomalous locomotor ataxy eruption.

Dr. G. Pernet regarded the condition as a syphilide.

Dr. Whitfield drew attention to the facts that in this case there was a fine urticarial rim around the edge of the rings, that the scaling was situated just within this rim, that the scales were fine, with the loose edge projecting inwards, and that the centre was of a peculiar buff yellow. All these characteristics would agree with a diagnosis of a peculiarly distributed Pityriasis rosea. Dr. Whitfield said that he would not go so far as to make a firm diagnosis, but he thought this disease might be borne in mind in watching the progress of the case. He was quite satisfied that the eruption was not a syphilide.

Dr. Pringle thought that the condition did not accord either in its morphology or in its history with any recognised type of syphilide. Nor was he aware of any similar condition symptomatic of the changes in the spinal cord present in locomotor ataxia. He was inclined to regard the case as independent of both syphilis and tabes, and as an example of the *Persistent gyrate erythema* (an "erythema urticans" of some writers) described and delineated by Dr. Colcott Fox and others.

The view was largely expressed that, despite the bias due to the fact of the man's past syphilis, the present eruption was not syphilitic.

(2) A case, for Mr. Arthur Shillitoe, of a ringed, scaly, red eruption which was diagnosed as *psoriasis*, the interesting feature of the case being that he had incurred risk of syphilitic contagion before the eruption appeared. The patient, however, stated that the lesions, which were at present ringed, had appeared as patches, so that the ringed appearance was a stage of involution.

Dr. S. Norman Meachen showed a case of *bromide eruption*. The patient was a boy, aged 5 years, who had had scarlet fever ten months ago, after which fits began to develop. He attended the medical out-patient department of the Prince of Wales's Hospital under the care of Dr. Whipham in October, 1907, remaining under treatment for right-sided epileptiform convulsions until the present time. According to the mother's statement five weeks ago the boy began to scratch a small "mole" upon the outer side of the left leg, which had been there as long as she could remember. This began to fester and was poulticed, but as the trouble spread further the patient was brought to the casualty department of the hospital, where he was treated by fomentations. When first seen by the exhibitor there were numerous greyish, circular, solid elevations, grouped irregularly upon the centre of the outer aspect of the left leg, varying in size from that of a large pea to a half-crown. Their surfaces presented a somewhat macerated appearance, but at the outer and posterior part there was a more typical elevation, such as is commonly seen in the flattened, papular form of bromide eruption. Upon the corresponding aspect of the right leg was another smaller lesion which had recently appeared. The exact amount of the drug which had been taken was not ascertained.

Dr. Stowers remarked that it was curious it should be on one limb so markedly, and yet but little on the other, seeing that it was a blood derangement.

The President said he saw a patient with chronic epilepsy, who had a scar on her leg, and the eruption was confined to the scar area. It was arrested by the use of borax. Arsenic had some controlling effect in those cases. He had seen *petit mal* arrested by borax.

Dr. **Whitfield** said one patient had no eruption until there was some barking of the shins, and then it had developed and was very obstinate, and difficult to eradicate.

Dr. **Sequeira** showed (1) a case of *rodent ulcer cured by radium in* 1904. The patient first consulted Dr. Sequeira in 1903. She was then nineteen years of age. Her father and mother were healthy, but an uncle with whom she resided for some time had a rodent ulcer on the forehead for many years. He also has been under Dr. Sequeira's care. When the patient was between fifteen and sixteen years of age a small swelling, which was taken to be a "pimple," appeared about the middle of the right lower eyelid. This ulcerated, and the ulceration gradually spread along the lid. In 1901, she was seen at St. Thomas's Hospital, London, and the lesion was pronounced to be tuberculous, and was scraped. She had a second operation at Dover a little later. There had also been a few exposures to the X-rays without appreciable benefit. When first seen there was a longitudinal ulcer along the lower eyelid on the right side. It extended from the outer canthus to beyond the middle of the lid. It was from one quarter to one third of an inch across. A small portion nearest the inner side was scarred, but presented a raised margin. The rest of the ulcer was covered by a thin adherent scab. The margin was characteristically beaded. A small portion of it was removed under local anæsthesia, and proved by microscopical examination to be rodent ulcer. There was no epiphora, but the lid was slightly everted in its outer half. There were no other lesions and no enlarged glands could be felt. In November, 1903, the ulcer had partly healed under X ray treatment, but relapsed in December, as the X rays had to be stopped on account of conjunctivitis. In February, 1904, it was decided to treat the ulcer with radium. Ten milligrammes were applied in tubes for thirty minutes daily on six successive days. A marked reaction was noticed, and on February 24th the ulcer had healed. Early in March a tiny nodule, which had escaped treatment, received four applications of the radium. Healing was noted as complete on April 14th, 1904. The scar has remained perfectly sound since. The specimen of radium used was estimated to be of radioactivity 500,000.

There was a little trouble from the ectropion caused by the scar contracting, and in November, 1907, Mr. Hutchinson operated for it. The result has been very satisfactory.

Apart from the fact that the patient has been well for nearly five years after treatment by radium, the case is of great interest in the early age at which the rodent ulcer appeared. The exhibitor has, however, shown one at the Dermatological Society of London, which commenced as early as eleven years. The fact that the girl was in attendance upon her uncle, who had an extensive rodent ulcer of the forehead, and that she assisted in the dressing of his ulcer suggests the possibility of implantation. The evidence, however, is insufficient.

In answer to questions, the exhibitor said a plastic operation was done, and it rectified the ectropion. The patient had had ten half-hourly applications of radium on successive days. With the minute quantities of radium now available large ulcers could not be so well attacked as small ones. Radium powder was employed.

The PRESIDENT said it was very interesting to see a case of rodent ulcer which began at the age of fifteen. Such young cases diminished the average age at which that condition occurred, but he still held that it was an elderly person's disease. In several cases of rodent ulcer he had found a family history of cancer; there seemed to be some such relationship.

(2) A case of *hirsuties* in an infant. The patient, a female child, aged 18 months, was born of British parents in Canada. She is the first child of her parents. There is no history of hirsuties in any member of either the father's or mother's family. The child is well developed, was born at full time, and at birth was noticed to be very hairy all over. The hair is of the downy form, and in some places is an inch long. At the present time it is most extensively developed on the face. The forehead is covered with fine hairs, the nose has many long fair hairs, especially crowded together on the dorsum. There is copious growth around the mouth and on the chin. The cheeks are covered with fine down. There are extensive tufts in the auricle and some on the pinna. The hair everywhere is fair. There are patches on the trunk, the most extensive being just above the gluteal cleft. The mother states that at birth the whole of the epidermis of the trunk and extremities, including the fingers and toes, was covered with down, but that is disappearing, while the hair on the face is said to be getting thicker and longer. In discussing the

question of treatment, the exhibitor deemed that the X-rays were too drastic, and might easily produce lesions which would be more unsightly than the hair. The fact that the hair on the trunk has almost disappeared suggests that there is a possibility of that on the face also disappearing, and it has been agreed to wait.

Dr. WHITFIELD showed a pure culture of Sabouraud's *Trichophyton rosaceum* obtained from a case of beard ringworm. Dr. Whitfield said that this was, as far as he knew, only the second case in which it had been found in this country, the first case having been observed by Dr. Adamson. No history of an infection from birds could be obtained, although it was stated by Sabouraud that this form was derived originally from birds. It was probable therefore that the fungus had been passed through man on one or more occasions before reaching the patient. The culture was of a downy consistency and of a beautiful deep rose colour. It had darkened the medium in which it had grown to a deep chocolate, and the edge and under surface of the culture was of a strong crimson, almost the colour of carbol-fuchsin.

In reply to questions, Dr. WHITFIELD said it was not a very common tricophyton, and it showed the colour in the tube admirably; it was a sub-culture. It was the *Tricophyton ectothrix* of birds, and came from a bird, but he did not know from what bird.

CURRENT LITERATURE.

THE TRICHOPHYTON OF ACUMINATE CULTURE AND THE TRICHOPHYTON OF CRATERIFORM CULTURE. R. SABOURAUD. (*Archives de Parasitologie*, tome xii, p. 33, 1908 [pp. 96, and 46 figures in the text].)

THIS monograph forms a summary of Sabouraud's observations and researches in regard to these the two most common forms of trichophyton ringworm of the scalp in Paris. At the present time the proportion of trichophyton ringworms of the scalp to microsporon ringworms in the St. Louis Hospital is as two to one. In hospital practice in London the trichophytons form only a very small percentage of scalp ringworms, being met with more especially in this country in resident schools and institutions. Sabouraud also regards them as notably institution (*maison d'éducation*) ringworms, and he points out the important fact that in many schools they are endemic, though dormant over long periods, with extensive epidemic outbursts at intervals of many years. Out of 100 cases of trichophyton ringworm in St. Louis 50 are due to *Trichophyton crateriforme*, 30 to *Trichophyton acuminatum*, 15 to *Trichophyton violaceum*, and 5 to pseudo-crateriform trichophyton. Only the two commoner forms are dealt with in this paper. They were first described by Sabouraud in 1894, and further experience has confirmed the stability and the fundamental heterogenity of these two types. Culturally they are readily distinguished by their characteristic growths, not only on "*milieu d'epreuve*," but also on other media, such as glucose-peptone-agar and the "conservation" medium (without sugar). On proof medium (maltose 4 per cent., peptone 1 per cent.) the *Trichophyton crateriforme* begins as a small white tuft, grows into a little velvety cake, the centre of which becomes yellowish and cupped, the margin rising so that a crater is formed, while gradually the velvety aspect is changed to a powdery surface. The *Trichophyton acuminatum* begins as a little dome with pampas-like plumes; enlarges, still with central plumes, and forms a flattened cone, rayed by more or less deep fissures, which may open out into lacunæ as the culture gets older. Pleomorphic growths sometimes appear on the crater, but Sabouraud has never seen pleomorphic growth on the acuminate cultures.

The clinical features on the hairy scalp are somewhat similar in both these trichophyton infections, each presenting numerous small lesions with only a few diseased hairs. The elusiveness (*peu d'éclat*) of the symptoms is such that they are very liable to be overlooked by the untrained eye. The ringworm of crateriform culture gives rise to small scaly patches, on which, between normal hairs, are a few greyish broken hairs, while among the scales are found characteristic bent or twisted stumps. The ringworm of acuminate cultures presents small areas covered with black comedo-like points, which are the diseased hair-stumps curled up at the mouth of the follicle under a little mass of epidermic scales. A somewhat similar appearance may be produced in the crateriform type when the scalp has been cleaned and freed from scales, when there remain only little groups of curled-up stumps. Sometimes these trichophyton ringworms may form largish patches by the fusing of small areas, and then the scaly patches with broken stumps of the *Trichophyton crateriforme* closely simulate the lesions of the microsporon. Both of these ringworms may give rise to small fugacious lesions on the body, and they may also be the cause of quite large, circinate red scaly, or even vesicular lesions on the glabrous skin in children who present no Tinea tonsurans.

The method of invasion of the hair is carefully described. The fungus, first of all growing in the epidermis, produces there transient epidermic lesions, and from thence attacks the hair, creeping on to its surface at the mouth of the follicle, and ramifying there in irregular chains, until some filaments, penetrating beneath the cuticle of the hair, pass downwards with dichotomous branching towards the root. The whole hair becomes eventually filled with fungus, which from the time of complete invasion remains wholly endothrix. Formerly Sabourand taught that the fully invaded hairs of these two endothrix ringworms could be distinguished by the microscope. In *Trichophyton crateriforme* the spores were square, in ribands, and not easily separated (resistant); in *Trichophyton acuminatum* they were rounded, in chaplets, and easily separated (fragile). Further study has shown him that this distinction, although in the main true, is schematic, and is not sufficiently constant for differential diagnosis. The anatomy of the lesions, studied in sections from cases of both types, confirms the purely endothrix position of the fungus, its twisting in the follicle and at its mouth, and shows that leucocytic reaction around the follicle may be either absent, or present and rather active.

The botanical aspect of these fungi has been studied by means of hanging-drop cultures. Both fungi produce spore-bearing fructifications, the *Trichophyton acuminatum* aërial filaments with lateral spores, the *Trichophyton crateriforme* more complicated grape formations.

Contrary to the general opinion these trichophytons have been found inoculable on animals. It is remarkable that it has been found possible to inoculate a guinea-pig also from the pleomorphic growths of the crateriform trichophyton, producing the same symptoms as will the growth itself, and obtaining pure return cultures of the pleomorphic growth. H. G. A.

[In a recently published paper (*Trans. Roy. Soc. Med.*, vol. ii, No. 3, January, 1909, Dermatological Section, p. 49) Colcott Fox, in a series of several hundred cases of Endothrix trichophyton of the scalp, gives the following proportions of the different varieties of culture found: (1) a cream-coloured or white crater (*Trichophyton crateriforme* of Sabouraud), 38 per cent; (2) a primrose-coloured crater, rare in Paris (*Trichophyton crateriforme flavum* of Colcott Fox), 21 per cent.; (3) a grey-yellow "plumed crater" (*Trichophyton acuminatum* of Sabouraud), 26 per cent.; (4) a violet culture (*Trichophyton violaceum* of Sabouraud), 15 per cent.

In regard to the "method of invasion" of the hair in endothrix ringworms, Sabouraud, while referring to the observations of Fox and Blaxall (*Brit. Journ. Derm.*, 1896, p. 294) as having established the truth of the theory of "direct invasion" as opposed to the theory *de détour*, believes that this method of invasion has not, until now, been fully described, and that no figure has hitherto been published to demonstrate it. While admitting that no such beautiful illustrations have been published, the writer of this abstract may be permitted to recall that, in 1895, he described in detail and pictured the early invasion of hairs by the endothrix fungus ("Observations on the Parasites of Ringworm," *Brit. Journ. Derm.*, 1895, pp. 239–240, plate v, fig. 13; plate vi, fig. 15; plate vii, fig. 17); that Colcott Fox, in addition to the reference given above, published a drawing in the *Brit. Med. Journ.*, December 2nd, 1899, and again in the *Medical Annual*, 1901; and that Aldersmith, in *Ringworm and Alopecia*, 4th edit., 1897, p. 10, also described this early invasion and refuted the theory *de détour*].

H. G. A.

THE FAVIFORM TRICHOPHYTONS. R. SABOURAUD. (*Ann. de Derm. et de Syph.*, Series 4, tome ix, 1908, p. 609, pp. 26, 21 figures in text, and 1 plate.)

THERE is a group of trichophytons which yield cultures resembling very closely those of common favus. They have been sometimes described as favus with trichophytic lesions, but Sabouraud is of opinion that the characters of the lesions, their clinical course, and the appearance of the fungus in the hair justify their classification with the trichophytons rather than with favus. The progress of the study of these trichophytons has, he says, been delayed by several factors, namely, the rare occurrence of the type, the confusion with favus owing to the close resemblance of the cultures, and the fact that the cultures do not grow, or only slowly, at ordinary room temperature, but require incubating at 25° C. There are probably many varieties of faviform trichophytons, but up to the present only three varieties are clearly defined. These are *Trichophytum verrucosum* of Bodin, and two forms which Sabouraud has isolated, *Trichophytum ochraceum* and *Trichophytum album.* Each of these is apparently of animal origin, chiefly from the calf, but also from the horse and the ass. On man they give rise to circinate impetiginous lesions on the glabrous skin, and, on hairy regions, to pilar trichophytosis (*i. e.* broken stumps ensheathed by a grey pellicle), which rapidly become kerion-like. There also occur extensive rose-coloured, circinate, squamous eruptions. There is never any suggestion of a scutulum. Microscopical examination reveals the fungus in the scales as wavy, jointed mycelium. In the hair the appearances are characteristic; around the shaft is a compact sheath of spores, very like that of the microsporon, but the spores are very much larger (5-8 μ), and have a tendency to chaining, which is absent in the microsporons. Inside the hair are ribbon-like filaments of mycelium. The picture is analogous to that found in *Trichophytum rosaceum.* The cultures of these three faviform trichophytons, although so closely resembling that of *Achorion Schonleinii,* have each their distinctive characters. *Trichophytum verrucosum* of Bodin gives rise to a grey, partially submerged, humid, acuminate culture with irregular verrucose surface.* The *Trichophytum ochraceum,* the commoner of Sabouraud's two forms, begins, on maltose-agar, as a little yellow-ochre knob, and then becomes acuminate and more grey in colour; on gelose-peptone-agar it is cerebriform. The *Trichophytum album* is so like favus that it is difficult to distinguish, but it is more umbilicated and more regularly folded. The cultures grow best at 25° C. Sub-cultures grow more readily than the initial culture. On the media at present in use no true fruit organs are formed, neither external conidia, grapes nor spindles, but a short-jointed mycelium with tendency to form swollen, spore-like bodies, which have been mistaken for fruit organs. These trichophytons are easily inoculated on the guinea-pig.

H. G. A.

A PAINLESS METHOD OF INJECTING THIOSINAMINE. A. POLLAK. (*Wien. med. Woch.*, February 15th, 1908, p. 343.)

THE chief drawback to the employment of injections of thiosinamine in the treatment of sclerodermia and keloid has been the pain associated with the injections. On this account it has been to a large extent superseded by the less painful fibrolysin. Pollak, in his contribution in connection with the use of thiosinamine in the treatment of stricture of the rectum, recommends the following solution of thiosinamine as being comparatively painless, and as giving no more discomfort than that accompanying a hypodermic injection of morphine: Thiosinamine one part, glycerine and distilled water, of each five parts. Of this one gramme is injected at a time, the injections being repeated five or six times a week.

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* A series of cases of trichophytons with faviform cultures, probably belonging to Bodin's *Trichophytum verrucosum* group, was described by Dr. Colcott Fox in 1896 ("Plurality of Fungi causing Ringworm," T. C. Fox and Blaxall, *Brit. Journ. Derm.*, vol viii, 1896, pp. 350 and 383, and plate ix, fig. 6). Similar cultures were obtained from three sources: (1) from a clear impetiginous vesicle; (2) from a circinate patch on the elbow of an infant; (3) from a dog. Microscopical examination of the hairs showed a close resemblance to an ectothrix fungus. The cultures (on proof-agar) were *café-au-lait,* rounded, convoluted plaques of pasty consistence, eventually covered with a short, bristly down. In hanging-drop there were no Aaron's rods and no chlamydospores, but masses of oval spores, facetted at each end, and ill-defined swollen hyphæ of mycelium frequently branched in palmate fashion, "appearances which seem to agree with those given by Bodin in his descriptions of the 'faviform cultures.'"

FAVUS, WITH REPORTS OF TWO INDIGENOUS CASES. E. J. STOUT. (*New York Med. Journ.*, June 20th, 1908, p. 1182.)

FAVUS is of such rare occurrence among natives of the United States that the writer considers that the two cases here reported, which occurred in individuals born of American parents, are worthy of being recorded in detail. The first case was that of a lad, aged 14 years, born in New York City, with favus affecting the scalp, nails, and the skin of the arms and legs. Large scutula were present on the legs and buttocks, and several occurred in the lower dorsal region. The second case was that of a girl, aged 13 years, who presented a number of small scutula on the flexor surface of the right forearm. The infection was thought to to have been got from a pet cat, with which the girl frequently played and which had several bald patches on it.

J. M. H. M.

ON AN EPIDEMIC OF TINEA (MICROSPORON) OBSERVED IN ITALY. PASINI. (*Giorn. Ital. d. Mal. Ven. e della Pelle.*, vol. xlix, fasc. 3.)

IN 1907 Pasini published a short paper (already abstracted in this Journal) on an epidemic of Tinea microsporon which he had observed in Como; the present communication is really an amplification of the former, with a few new features. This paper is forty-one pages long, whereas the old one was only two, and it deals with forty-two cases instead of twenty-seven. There is an interesting *resumé* of the chief literature on tinea since Gruby's original paper in 1841, with a bibliography appended, and particular attention is given to the question of the geographical distribution of the varieties of the fungus. The paper is illustrated by two plates showing the appearances of the diseased hairs, and also the macroscopical and microscopical characters of the cultures obtained from the cases. There can be no doubt but that the author has been able to show that Tinea microsporon is now epidemic, or perhaps more correctly endemic, in the province of Como, a point which has never before been demonstrated or even suspected.

H. D.

ON CUTIS VERTICIS GYRATA (UNNA). FRANZ VON VERESS. (*Derm. Zeitschr.*, B. xv, Heft. 11.)

AT the ninth congress of German dermatologists Jadassohn called attention to the existence of a peculiar conformation of the scalp in which the skin of the crown and back of the head is thrown into furrows, giving an appearance reminiscent of the gyri and sulci over the surface of the cerebrum. Since then Unna has published three similar cases. The author of the present paper now gives particulars of ten more. All these are in males, and, with the exception of the last, occurred in dark-haired individuals. The condition appears to give rise to no symptoms, and was only noticed because the subjects of it came up to be treated for other affections. Microscopically examined some cases show traces of old inflammation, while others only show mere atrophy of the skin-glands in the neighbourhood of the furrows owing to pressure of the surrounding parts. The ætiology of the condition, therefore, remains doubtful; some of the cases give a history of eczema of the head in childhood, others seem to be dependent on the slow development of a congenital abnormality. The author is inclined to lay most stress on a chronic inflammation of the scalp as the cause. The paper is illustrated with a plate, a photograph, and diagrams.

H. D.

THE TREATMENT OF SMALL- AND LARGE-SPORED RINGWORM AND FAVUS BY X-RAYS. F. R. M. BERGER. (*Archiv f. Derm. u. Syph.*, vol. lxxxviii, p. 179.)

SIXTY-TWO cases of the above diseases were treated by X-rays, and the results were satisfactory even in the most obstinate cases. Burns or nervous symptoms as a result of the treatment were not experienced, and the author considers that X-rays suitably modified are applicable to every case, without exception, of such affections. He made use of Sabouraud's radiometer, and the Wehnelt krypto-radiometer to estimate the hardness of the tube. The most satisfactory tube is in his opinion the Hirschmann monopol tube, chiefly because of its excellent regulating apparatus. The method is extremely economical as compared with methods formerly in use, and is a great saving to the public funds when the expenses of the treatment of school children have to be paid out of such funds.

J. L. B.

CONTRIBUTION TO THE HISTOLOGY AND BACTERIOLOGY OF MADURA-FOOT. EMMA DÜBENDORFER (Cairo). (*Archiv f. Derm. u. Syph.*, vol. lxxxviii, p. 3.)

THE patient was a woman, aged 30 years, from the neighbourhood of Assuan and a Nubian. The growth was situated on the dorsal surface of the left great toe and had a history of about two years. This unusual position was interesting, but its slow growth, irregular consistence, general appearance and the typical superficial changes left no doubt as to the diagnosis. This diagnosis was confirmed both by bacteriological and histological examination, the characteristic fungus being found in abundance.

J. L. B.

DERMATITIS IN NEW-BORN INFANTS (INFANTILE ERYTHEMATA): A HISTOLOGICAL STUDY. FERRAND. (*Ann. de Derm. et de Syph.*, April, 1908, p. 193.)

FERRAND contends that the title "erythema" (of the newly born) does not accurately express the condition of affairs in these cases; there are all grades of inflammation met with, and, indeed, the symptoms coincide with those which Besnier has formulated as constituting typical eczema: "Redness and vesiculation; rupture of vesicles, weeping and crusts; separation of epithelial *débris* and micrococci; cessation of discharge; a condition like a red varnished surface, exfoliation, scaling and repair." The histological researches confirm these findings; the appearances of sections derived from every variety of "infantile erythema"—erosive and papular—are those of eczema or eczematisation, viz. hyperacanthosis, dilatation of the capillaries in the corium, with serous transudation and diapedesis. Even in the type which might be called "syphiloid," from their resemblance to syphilides, the same conditions were present. In all these types the *Spirochæta pallida* was looked for, but in vain; and in one instance an attempt at inoculation into an ape proved negative.

E. G. L.

SYPHILIDES, TREATMENT OF, BY LOCAL MERCURIAL INJECTION. Hamel. (*Ann. de Derm. et de Syph.*, May, 1908, p. 280.)

Hamel, working under Darier's direction at the Broca Hospital, has experimented with weak local soluble injections of mercury, made in the site of the lesion in secondary and tertiary forms where the affection to be treated is circumscribed, ulcerative, or weeping; where large doses are dangerous from any cause; where general treatment has not been successful in abolishing the lesions; where there is uncertainty of diagnosis between tuberculosis and syphilis. But in all cases this treatment is an *adjunct* to the general treatment and not a substitute for it. The solution finally adopted as the least painful was the isotonic solution of cyanide of mercury in $\frac{1}{2000}$ strength with stovaine $\frac{1}{200}$. A very fine needle is taken and plunged obliquely into the deeper cellular layers of the papule or tubercle, or into the substance of ulcerations when these are present; the lesion is then covered with a dry gauze dressing. The injections are given daily or every two or three days as occasion requires, and in quantities of about $\frac{1}{4}$–1 c.c. of the $\frac{1}{2000}$ solution, and sixteen cases are reported (one a leucoplakia of the tongue), in which local injections combined with general mercurial treatment in some cases, in others alone, caused a notable acceleration in healing of the part treated.

E. G. L.

SPOROTRICHOSIS CAUSING EPIDIDYMITIS, ORCHITIS, VAGINITIS. De Beurmann, Gougerot, and Vaucher. (*Ann. de Derm. et de Syph.*, August-September, 1908.)

Experimental inoculations in the rat with *Sporotrichium Beurmanni* form the basis of this paper. Inoculations into the peritoneum invariably result in orchitis—a sequence which is uncertain and delayed with similar subcutaneous inoculations. Anatomically, the lesions are chiefly peri-testicular and epididymal and show histologically every variety of inflammatory reaction—abscesses, granulations, polynuclear infiltrations, diffuse "lympho-conjunctive" infiltration, patches of degeneration and foci of necrosis, and fibrosis, the general histological aspect being singularly like that of tuberculosis, and, indeed, sometimes only distinguishable by the presence of the parasite. Connective-tissue proliferation appears to precede polynuclear infiltration, and each may be in turn predominant, but each is a characteristic feature of the inflammation, the end being either necrosis or fibrous organisation according to the greater or less intensity of the process.

The parasite may be easily isolated from the pus and grown on the "gelose-glycosée" medium of Sabouraud. Smear preparations taken from pus of an abscess and stained wit Gram usually show the parasite well. The rat is the most susceptible animal at our disposal, and the male is preferable to the female owing to the certainty of the orchitis resulting from inoculation, usually appearing in the fifteenth or twentieth day after a peritoneal infection. But the ease with which the parasite is usually found generally disposes of the necessity of animal experiments.

E. G. L.

THE "PITCH-SKIN": A TRADE DERMATITIS. OSKAR EHRMANN. (*Monats. f. prakt. Derm.*, January, 1909, p. 18.)

AT Mannheim, where the writer of this paper is in practice, there is ample opportunity of studying the bad effects of pitch on the skin, for in that neighbourhood there is a number of coke and anthracite works and manufactories of products of pressed coal such as "bricketts," and in these works the workmen, being more or less continuously exposed to the action of pitch dust and the fumes from melted pitch, are liable to a definite type of trade dermatitis, which has been named by this writer "Pech-haut" or pitch-skin. In this contribution reference is made to the clinical appearances presented by about 30 cases of this dermatitis observed in 1907 and 1908. The typical characteristics of pitch-skin as exemplified by these cases are as follows:

(1) Discoloration of the exposed skin, giving it the appearance of an Indian's skin, and yellowish discoloration of the bulbar conjunctiva. This discoloration is not due to the impregnation of the skin with particles of pitch but is a true pigmentation, resulting from the irritation and chronic hyperæmia produced by the pitch fumes.

(2) Formation of comedones, analogous to those of "tar-acne." These comedones, many of which are so large as to merit the name of "giant-comedones," occur chiefly on the face, neck, back and chest, and are due to the pitch dust. In the absence of a histological examination the writer is undecided whether the comedones are simply plugs of pitch, or, as is generally believed, are horny plugs, the result of keratosis of the funnel of the follicle. In only two of the cases did folliculitis and acne coexist with the comedones, and in other two there were suppurative tumours on the scalp, the result of secondary infection.

(3) Warty growths and keratosis of the palms. Multiple warts occurred on exposed parts such as the face and neck and hands, and the keratosis affected chiefly the palm of the right hand. Some of the warts were of the common type, while others resembled Condylomata acuminata. The warts were believed to be caused by the fumes.

The treatment recommended consisted of ceasing to work with pitch, destruction of the warts, removal of comedones, and the application of naftalan-zinc-paste.

J. M. H. M.

CONTRIBUTION TO THE STUDY OF MACULÆ ATROPHICÆ. MARIO PELAGATTI. (*Monats. f. prakt. Derm.*, January 1st, 1909, Bd. xlviii, p. 1.)

THE case which forms the basis of the contribution was that of a peasant woman, aged 40 years, who presented a profuse eruption of atrophic pigmented macules, distributed over the whole of the skin, but most marked on the face, back, and flexor aspects of the forearms. The history of the case was peculiar. In 1902 she contracted syphilis, which was succeeded by a macular exanthem, which disappeared in a short time without any anti-syphilitic treatment. Three years later a papular eruption made its appearance on the face, back, and extremities, and this in turn cleared up after six months' treatment with mercury. In 1907 a fresh papular eruption developed, and it was associated with slight paresis of the right facial nerve. This eruption appeared first on the leg, and spread on to the back, neck, and face. It consisted of smooth, shiny, brownish-red papules, many of them shaped like lint seed, while others were irregular in outline. They varied in size from small tubercles to pin-head-sized lesions. In colour they were rose-red, brownish-red, or lilac tinted. The surface was smooth, in some cases depressed, with the orifice of a sweat-gland or hair-follicle in the centre, in other cases flat or convex. The larger legions presented striæ which tended to run in the long diameter of the lesions. Some of the papules were surrounded by a pigmented halo. In a large number of instances the papules had disappeared, leaving brown atrophic macules or slight depressions. Under treatment with mercury and iodide of potassium the eruption cleared up in about two months. A histological examination was made of lesions exhibiting the three stages in their evolution, viz. infiltration, pigmentation, and atrophy. In the stage of infiltration the epidermis was slightly thinned and œdematous and the stratum corneum defective. In the cutis the cellular infiltration extended down as far as the sweat-coils, and consisted of lymphocytes, epithelioid cells, and a few small giant cells. The vessels were widened and surrounded by an infiltration of lymphocytes, and there was œdema affecting the infiltrated region. In the pigmented plaque the epidermis was thin. The cells of the basal layer of the epidermis were markedly pigmented, pigment-cells being present also in the cutis. In the atrophic macule the epidermis was thinned, the interpapillary process having quite disappeared in the centre of the lesion, and being slight at the margins. The pigmentation was less marked in the cells of the basal layer. The infiltration in the corium was less marked, and was chiefly located around the blood-vessels. It consisted of a few lymphocytes and plasma cells. The elastic fibres had disappeared. After discussing the question of the diagnosis of the lesion at considerable length, the writer comes to the conclusion that it was a papular or small tubercular eruption belonging to the tertiary stage of syphilis. An examination for the *Spirochæta pallida* gave negative results, as also did injection of tuberculin. J. M. H. M.

[The clinical as well as the histological characters of the eruption suggest the possibility of its being a case of atrophic Lichen planus.—J. M. H. M.]

REVIEW.

LE LUPUS ÉRYTHEMATEUX AIGU d'EMBLÉE; ÉTUDE CLINIQUE.*

PERNET maintains that the descriptions of acute disseminated Lupus erythematosus as given in standard works on dermatology are too generalised, that they are, for the most part, synthetic descriptions of diverse forms, and need dissociating. They are made to include forms of acute Lupus erythematosus arising as a sequela to chronic lesions, others associated with albuminuria, others of long duration with remissions and subsequent development of scar-leaving lesions, and a very rare type which is acute from the first, and which runs a rapid course to a fatal termination. It is this last type with which Pernet is here concerned, and for which he proposes the title of Lupus erythematous "aigu d'emblée." He describes very fully such a case which was under his care, and gives details of nine similar cases recorded by others, namely: two of the cases in Kaposi's original account of acute Lupus erythematosus (1872), and one subsequent case; a case by Boeck (1884); one by Franz Koch (1896); two by Jadassohn (1903); two in this country, Sidney Short's case (*British Journal of Dermatology*, 1907) and an unpublished case by Douglas Heath. The main features of these ten cases may summed up as follows: All were young adults (15–32), and, except Pernet's case, females. The affection began on the face as numerous isolated points, or as larger patches rapidly coalescing, the development being so rapid that often when first seen the face presented the aspect of an acute impetiginous eczema. Characteristic features of the swollen red-crusted areas were their sharp margins and their persistence, with acute exacerbations—the so-called Erysipelas perstans faciei of Kaposi. Soon, the hands, the limbs and the trunk became affected by lesions of various types—erythematous macules, patches of Erythema exudativum, herpes-iris-like patches, or bullæ, sometimes hæmorrhagic. The scalp was the seat of red macules, discoid patches of, or simple alopecia. The mucous membranes were often attacked. The general symptoms included joint pains, fever—a temperature of remittent type—collapse, vomiting, typhoid state. Albumen was absent from the urine, or its presence transient and scanty in amount. In Pernet's case a peculiar trembling was noticed. Many of these cases terminated with pneumonia, and after death there was found dilatation of the heart and parenchymatous degeneration of the kidneys.

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* *Le Lupus Érythemateux Aigu d'emblée; Étude Clinique.* By GEORGE PERNET. Paris: 1908. Pp. 135.

That there exists a close relationship between these cases and the acute forms supervening upon antecedent Lupus erythematosus Pernet admits, and he recalls in detail several cases which demonstrate this relationship. But he insists upon the practical importance of recognising apart this grave form with its unusual mode of onset and its rapid course to a fatal termination in a few weeks or months, for he believes that by early diagnosis and prompt treatment by confinement to bed and by administration of large doses of quinine the mortality of these cases might be reduced.

Pernet discusses the diagnosis of these cases from Erythema exudativum multiforme of Hebra, with which they have certain resemblances and possibly certain bonds of relationship, but which he clearly distinguishes as distinct morbid entities. In regard to the ætiology of acute Lupus erythematosus of sudden onset he concludes that we are ignorant of the essential cause, but that we have to do with a severe intoxication, a toxæmia, possibly of multiple origin. He thinks it possible that tuberculosis plays a certain *rôle* in the evolution of this morbid form, either as one cause among many, or by favourably modifying the soil for one or many other causes. A review of the histological findings in the skin does not reveal anything which may be regarded as an essential cause, but the presence of plasma-cells (Pernet's own case and Short's case) is a feature of interest.

H. G. A.

THE BRITISH
JOURNAL OF DERMATOLOGY.

MARCH, 1909.

UNUSUAL CASE OF LUPUS MUTILANS.

By WALTER G. SMITH, M.D.,
President of the Section of Medicine, Royal Academy of Medicine, Ireland; Physician to Sir P. Dun's Hospital; Ex-President, Royal College of Physicians, Ireland.

THE case I submit presents some unusual features which appear to me worthy of record.

They are as follows:

(*a*) Two symmetrical patches of ordinary lupus on the face; one on either cheek. Nodular lupus is rarely symmetrical on the face.

(*b*) Lupus on the conjunctiva of upper and lower eyelids of both eyes. This had not spread from the adjacent skin, or up the nasal duct.

(*c*) Notable involvement of the soft parts of the fingers, with deformity.

(*d*) Remarkable changes in the bones of the digital phalanges, as shown in the excellent X-ray photograph, for which I am much indebted to Dr. E. Watson.

CASE.—J. O'N—, aged 36 years, shop assistant, admitted into Sir P. Dun's Hospital, October, 1908. Father and mother alive and healthy, and no history of tubercle in the family. A temperate man, and never had any venereal disease.

Nor did he ever suffer from any form of skin-disease until about six years ago, when both thumbs were attacked with redness and swelling, like that of a chilblain. Gradually, also, the nails were affected and fell off. Ulceration developed on the tips of fingers of left hand one year ago, on the right hand a few weeks ago.

Three years past the right eyelids were involved, and four months ago the left eyelids.

Ten months ago a patch of ordinary lupus on the right cheek, followed, six months later, by a similar patch on the left cheek.

No other part of the body was attacked; lips and mouth quite free.

Present state: Right hand.—Thumb, middle and ring finger affected. Thumb stumpy, deformed, swollen and bulbous. Nail destroyed, and an irregular transverse line of ulceration across the dorsum of the phalanx.

Last phalanx of middle finger dusky and swollen; nail spoon-shaped, soft, deeply striated longitudinally. Second phalanx of ring finger small, with dusky red swelling on the back; nail normal.

Left hand: Thumb, index and ring fingers affected. Last phalanx of thumb deformed, swollen, dusky red. Nail soft, almost destroyed, and oozing sero-pus at the side. Last two phalanges of index finger dusky red, swollen; nail a mere remnant, thick, and soft, ulcerated at base.

Ring finger deformed, dusky red and swollen; last phalanx turned to ulnar side. Nail soft, striated; three saucer-shaped depressions on its back, separated by vertical ridges.

Face.—Symmetrically, on the centre of each cheek, a patch of nodular and ulcerated lupus about one and a half inches long, extending obliquely from below the eye downwards and outwards.

Nose.—Mucous membrane swollen and granular.

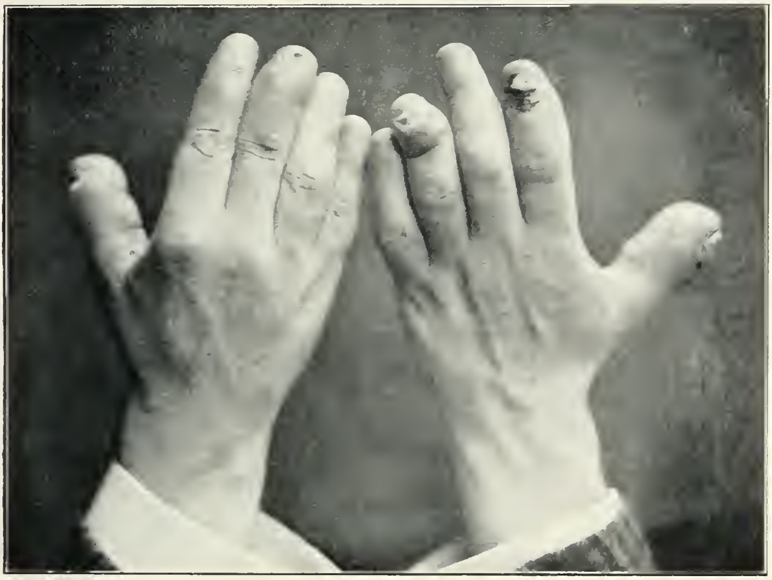
Eyes.—The right lids slightly reddened and swollen. Inner surfaces of both lids affected. Upper very vascular, and finely granular, but not bleeding when rubbed. Lower lid thickened and slightly everted. Bulbar conjunctiva vividly injected. A pale, pulpy, new growth, involving inner edge of cornea; sight good.

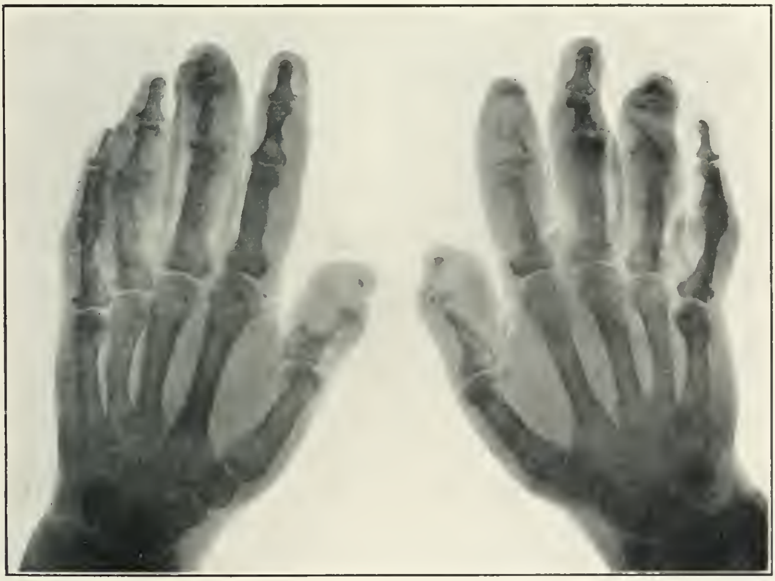
Left eye not so severely affected; upper lid red and swollen palpebral conjunctiva very vascular and granular.

The patient was transferred to the Royal Victoria Eye Hospital, and Sir H. R. Swanzy curetted the lids.

In one other case of lupus I have observed pulpy swelling of the fingers, and the case is referred to by Dr. Radcliffe-Crocker (*Diseases of the Skin,* third edition, p. 714).

Pulpy nodosities appeared first on the fingers, then psoriasis-like eruption on the body, which left scars; on the tip of the nose





To Illustrate Dr. Walter G. Smith's Article on Lupus Mutilans.

was undoubted ordinary nodular lupus, which ulcerated; and on the nose and fingers there were symmetrical exostoses about 3 cm. by 2 cm.

A radiagram by Dr. Haughton revealed bony outgrowths in several places, chiefly at articular ends of phalanges.

The most remarkable circumstance in the present case is, I take it, the serious and extensive implication of the bones of the fingers, and I am much indebted to Dr. E. Watson for the beautiful radiogram which so well illustrates the state of affairs. The dissolution of the bones, leaving scattered islets here and there, is very noteworthy.

The deformity of the hands calls to mind the mutilation that is frequently seen in leprosy, and the latter diagnosis would scarcely be incredible were attention directed to the hands alone. (Compare the illustrations given in Hillis' *Treatise on Leprosy in British Guiana.*)

A striking photograph of the destructive effects of lupus on the hand is shown in Plate 71 of Hutchinson's *Smaller Atlas of Clinical Illustrations.*

In his enormous experience Sir Jonathan Hutchinson has seen very few examples of Lupus mutilans. In all it was associated with Lupus vulgaris on other parts, and in all the disease has begun in early life. In my case the disease first showed itself at thirty years of age.

Hutchinson also mentions that a lady, aged about 30 years, who suffered from lupus of the face, was brought to him by Mr. Sibley, and one of her hands was exactly in the condition shown in the plate in his *Smaller Atlas.*

A similar condition is sometimes produced in the foot.

Pathologically the state of the bones may, I presume, be regarded as a tuberculous rarefying osteitis.

Even in the worst cases of lupus of the nose and face it is very noteworthy how the bones escape, not excepting the thin vomer, and caries of the palate bones never ensues.

Lastly, I would draw attention to the extensive involvement of the conjunctiva. Lupus of the conjunctiva usually occurs as an extension of the disease from the adjacent skin, or possibly up the nasal duct. Excellent illustrations of its clinical features are shown in Kaposi's *Atlas of Diseases of the Skin,* Plates 213–216.

As to treatment there is little to be said. I thoroughly scraped the patches on the cheeks, and subsequently drilled any residual specks with liquid carbolic acid, and the result is very satisfactory and the scar scarcely visible.

Nothing can reasonably be expected from treatment of the digital disease.

DISEASES OF THE SKIN IN ANIMALS COMMUNICABLE TO MAN.

By LESLIE ROBERTS, M.D.,
Dermatologist to the Liverpool Royal Infirmary; Lecturer on Dermatology in the University of Liverpool.

The vegetable parasites which are found in the skin of man and domesticated animals may be conveniently arranged in natural groups, the numbers of each group being allied by certain affinities.

Group I includes a number of cocci which are on the border line of the saprophitical and parasitical life. They are associated with seborrhœa and the many evil consequences which follow the condition of blocked follicles. They are prevalent in large numbers in active condition in the decomposing comedo, in pityriasis, and in all forms of follicular suppuration from porofolliculitis to the deep-seated boil, carbuncle or abscess. All these diseases are commonly met with in the different species of animals which have been domesticated by the white man. They suffer from suppurations of acne, from pityriasis and boils, but these diseases, though undoubtedly parasitic, are not, so far as we know, communicable from animals to man.

Group II.—The members of this group, which includes the streptococci, are characterised not only by the tendency of the organism to cohere into regular chains but by their increased pathogenic powers. Their manifestations vary from such slight affections as impetigo up to the more severe forms of lymphangitis, deep abscesses and erysipelas.

The disease *Dermatitis contagiosa pustulosa canadencis,* to which horses are especially liable, appears to belong to this group, and to be the analogue of our own impetigo. It was introduced into England in 1877 from Canada and distributed over Europe through English horses. Much error and confusion regarding its nature has arisen through the name "horsepox," which the English veterinary surgeons applied to it. The disease has nothing in common with true variola. Dermatitis contagiosa of horses is characterised by an eruption of vesicles, pustules and scabs resembling human impetigo. But the severer cases may be accompanied by deep suppuration, the formation of nodules and lymphangitis, but there is never any general disturbance of health. Some cases are rebellious to treatment. According to Schindelka, who has devoted special attention to the skin diseases of animals, it is identical with human Impetigo contagiosa. The disease is commonly met with in the region of the saddle and girth, and may be conveyed from horse to horse by means of girths, saddles, harness and horse-rugs. It is extraordinarily contagious not only to animals but to man, and at one time was thought to be identical with Stomatitis pustulosa contagiosa of the horse, but this is now denied by the German authorities. The case of so-called horsepox reported recently by Dr. A. F. Cameron, in which the disease was directly communicated to a stableman, appears to be an example of Stomatitis pustulosa. The disease in the stableman consisted of eight lesions, all but one being situated on the left hand and forearm, and resembled the lesion of primary vaccination; it was accompanied by lymphangitis and general disturbance of health. The horse from which the disease was contracted was suffering at the time from "ulcers of the mouth and throat."

We have very little exact information regarding the bacteriology of Dermatitis contagiosa of the horse. Dieckerhoff and Grawitz isolated an organism which they thought was identical with the acne bacillus, and they maintained that horsepox should be called *Acne contagiosa equorum.* Their description of the organism, however, does not correspond with the acne bacillus as described by Unna and Sabouraud. It appeared as a minute rod-shaped organism, 0·2 micromillimètres in length, which broke up into short chains of spherical spores. From this description, as also from its tendency to set up lymphangitis, I have temporarily included it among the streptococci.

Very little is known about clinical forms and bacteriology of the impetigo group of diseases in animals. According to Schindelka most of the cases of so-called pemphigus in domesticated animals are not true pemphigus, and it is not improbable that they correspond to the bullous forms of human impetigo. It is certain, however, that some of these cases of animal pemphigus are communicable to man. Dr. Ballard* reports a case of severe pemphigus in a dairyman in which the disease was contracted by inoculation from a vesicular-bullous eruption upon the teats of a cow.† Vesicular eruptions upon the udder of cows is well known in dairy farms, and are known familiarly as white or blisterpox. The germ of this vesicular eruption has not, so far as I know, been isolated, but probably it belongs to the impetigo group, like the Dermatitis contagiosa of the horse.

Group III.—The third group contains three faculative parasitic organisms of the highest importance to the pathologist, if not to the dermatologist. These are the *Bacillus tuberculosis, Bacillus Mallei* and *Bacillus anthracis.* These parasites play so large a part in the economy of man and domesticated animals, and their relations are so far-reaching and important that to deal with them, even in a summary manner, would extend this paper far beyond the limits which have been imposed upon me. As dermatologists we are more concerned with tubercle bacilli than with the bacillus of anthrax or of glanders. Cutaneous tuberculosis, whether in man or animals, forms but a very small part of the life-history of the parasite. Of the three ways of contagion, namely ingestion, inhalation and cutaneous inoculation, the latter is the rarest and least effective. Cutaneous tuberculosis of man and animals is usually a benign lesion, remaining generally a local disease, and in animals tending to self-limitation. The transmissibility of cutaneous tuberculosis from animals to man by inoculation has been demonstrated by many examples. The inoculation is always accidental, and of course the class of persons who are specially liable are those who are brought in contact with animals, whether dead or alive. A curious way by which tubercle may be transmitted from the skin of cows to man is through milk. Leloir and Salmon have recorded cases of lupus in farmers who had dressed cutaneous eruptions with fresh cream from tubercular cows. Lafitte reports the case of a young farmer who wounded his hand but continued to milk a cow with tuberculosis of the udder. Tubercular gummata appeared later in the wound and spread up the arm.

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* *Medical Times and Gazette*, 1871, vol. i, p. 5.

† That form of infective pemphigus, which is met with in butchers and which appears to be the result of infected wounds, must not be confused with the pemphigoid eruption contracted from parasitic pemphigus of animals. See article by Pernet on "Bullous Eruptions in Butchers," *Brit. Journ. Derm.*, vol. viii, 1896, p. 157.

Other cases have been reported in veterinary surgeons, butchers, abattoir workers, etc.

(2) *The bacillus of glanders* presents many points of similarity with tubercle bacillus. It may be said, in fact, that glanders is to the horse what tuberculosis is to the cow. Strictly speaking, glanders is not a disease of the skin-tissues. The acute forms are essentially blood infections, and the chronic forms, in which the bacillus penetrates through an abrasion of the skin, are characterised by a peculiar form of dermatitis terminating in necrosis and ulceration. All the lesions of glanders, whether acute or chronic, are contagious, especially those of the mucous membrane of the nose, and it is usually from this source that stable boys, coachmen, carters, cavalry soldiers, and veterinary surgeons are infected.

(3) The *anthrax bacillus* is known to us in two forms, the bacillary and the sporophytic, and the latter is especially dangerous from the very high powers of resistance which the spores are able to offer to heat, cold, and desiccation. Sensibility to infection varies according to the mode of infection, but sheep appear to be equally sensitive whichever way the parasite finds entrance. According to Menetrier,* rodents, mice and guinea-pigs are very sensitive to subcutaneous inoculation, but little sensitive to ingestion of anthrax matter. Cattle are easily infected by the digestion tract, and habitually get well after cutaneous inoculation. Dogs are highly refractory by the alimentary tract, but sensitive to intra-venous injection. Anthrax in man is always the result of accidental inoculation through a wound or abrasion in the skin, and the infection is always derived from products which have come directly from spontaneous anthrax of domesticated animals, *e. g.* sheep, goats, horses or cattle. Anthrax is the only disease, so far as I know, in which skin, hair and wool, as used for industrial purposes, is still capable of transmitting infection to man. Anthrax appears to be not infrequent among tanners and tawers, for the skin, even when tanned, may retain its virulence owing to the high resistance of the spores of the bacillus. Porters in skin

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* *Traité de Médecine et de Thérapeutique*, Brouardel and A. Gilbert, vol. iv, "Maladies Communes a l'homme et aux Animaux," art. Charbon, p. 246.

markets have been known to suffer from anthrax of the nape of the neck, and for the same reason the disease is more frequent among saddlers, shoemakers, wool-carders, mattress makers, furriers, glovers, brush makers, and glue makers from contact with the horns of animals.

Passing now to a higher order of organism, we come now to the *Streptothrices*, an order not yet clearly defined, but which includes the Actinomyces. Opinion is divided as to whether this parasite should be included among the filamentous bacteria or among the oospora fingi. Two parasite forms are known—(1) actinomycosis, human and bovine, and (2) Madura foot. Of actinomycosis there are very few cases indicating the possibility of contagion from cattle to cattle or from cattle to man. According to Delepine 75 per cent. of recorded cases have been in persons who, by their occupation, have to do with cereals, *e. g.* farmers, labourers, coachmen, grooms, millers. There is strong evidence pointing to the independent saprophytic existence of the fungus. There are certain points of resemblance in the life-history of streptothrices and the microspora and trichophyta, but to these I shall advert later.

We come now to the order of lowly organised fungi, of great interest to the dermatologist, which includes the pleomorphous species of Hyphomycetes. Taking the order as a whole we may say that they are characterised by their power of living on the keratinised products of human and animal skin, which they break up and digest by means of keratolytic ferments, also by an extraordinary variation in their forms of vegetation and fructification according to the host or substance on which they are found.

Notwithstanding the invaluable work of MM. Sabouraud, Bodin, and many others, the time has not arrived when we can write the complete life-history of these fungi, and I am afraid we shall have to abandon the hope of making a perfectly scientific classification of them on the lines on which the higher fungi are classified since the hyphomycetes do not propagate by conjugation, and never under circumstances as yet observed form sexual organs. There is no doubting the value of Sabouraud's cultural test as a practical working basis because we find that these fungi preserve certain physical properties under cultivation which seem to be more or less constant; thus some cultures are acuminate, some crateriform and others flat. Their colours vary greatly, some are snow white, some buff colour, others ochre colour, others rose, violet or black. The size of the spores is not a dependable basis for classification because they are found to vary according to the substratum or host in which the fungus is found. Even the same specimens may show different sizes. The gonidia also are liable to many variations; they may be sessile or pedunculated, they may be attached to one side of the gonidiophore, to both sides, or to a swollen extremity of the gonidiophore. The chlamydospores are certainly more specialised forms of fructification, and may be regarded as more characteristic of the microspora than of the trichophyta. In the present state of our knowledge it seems to me that the threefold method of differentiation proposed by M. Sabouraud is the best, and this consists in determining the physiology, the micro-morphology, and the aspect of the fungus under certain precise conditions of cultivation.

Nos. 1 *and* 2. *The physiological and morphological tests.*—No fungus can be admitted to the order of the keratomycetes unless it possesses the power of breaking up and digesting the keratin products of the epidermis. When the different members of this order are examined microscopically in the hair or epidermis of their hosts, certain differences in their modes of action may be ascertained. These differences belong partly to the mode in which the hair is attacked and partly to their method of reproduction.

One group of fungi, of which the *Microspora hominis* is the type, find their chief source of sustenance in the cuticle of the hair root, and in this they vegetate as extremely simple cryptograms secreting a keratolytic ferment by which the cuticle is reduced to a state of *débris*. In this situation the whole of the mycelium is converted into a mosaic mass of "spores" without any differentiation of the brood-spores. The vegetation in the interior of the hair is scanty, but here the conditions are less favourable to fructification, and consequently we find mycelial filaments with septa comparatively far apart. M. Bodin has pointed out that the microscopic morphology of the microspora varies very little in epidermis or hair, whether in man or animals. The microspora, then, as a group are distinguished by a homogeneous method of fructification of great simplicity, which consists in the simple conversion of the whole of the hair cuticle mycelium into a mass of undifferentiated spores. In all the remaining groups of the keratomycetes the mycelial spores present considerable variations in size and shape. Homogeneous fructification such as we constantly find in the microspora is absent, and is always absent. The mycelium within the hair and scales or follicle may be for the most part simple vegetating mycelium, and in some animals, as for example the horse, it may die spontaneously. We always note among these non-homogeneous sporing fungi that the position of the septa and the shape and size of the spore protoplasm is indefinite. The spores may be large or small, square or spherical, in different specimens even of the same fungus. The variation may vary from 2 μ to 6 μ or even more. Another point of importance is that in the spore formation of the trichophyta the differentiation is never carried so far as to lose all trace of the original purely vegetable mycelium. And this I regard as evidence that parasiticism in the trichophyta is merely a phase of their existence, and that their existence is mainly passed on other substrata than animal hosts.

The trichophyta are further distinguished from the microspora by their method of attacking the hair. *T. endothrix* vegetates solely in the interior of the hair-root and adjacent portion of the shaft, breaking up the substance of the hair by means of its keratolytic ferment, and leaving the cuticle of the hair intact like a shell. Fructification is indeterminate, but the method is always by segmentation of the mycelial filaments. All the trichophyta whose normal hosts are the domesticated animals, and which only occasionally and accidentally migrate to the human skin, present a larger proportion of undifferentiated mycelium composed of filaments 4–6 μ thick, with septa far apart, and which form a network which surrounds and penetrates the hair. These are the ectothrix trichophyta. Their fructification is by simple conversion of mycelium into the spore, and the resultant spore differs but slightly from the parent mycelium.

(3) *The cultural test.*—All workers who have devoted themselves to the cultivation of the Keratomycetes are aware of the extraordinary sensitiveness of these fungi to minute changes in the medium in which they are grown, and to their surroundings as regards temperature and moisture. It was only when M. Sabouraud introduced the method of cultivation on a medium of definite constitution that solid progress began to be made. It was then found that certain physical

peculiarities usually exhibited by the old cultures recurred with astonishing regularity. Thus the crater-like depression which forms in old cultures of *Trichophyta endothrix* with resistant mycelium appears in specimens from widely different parts of the world. I think all the British observers have cultivated it, and Dr. Charles J. White has seen it in Boston.

When this culture test is applied to the keratolytic flora of man or his domesticated animals, it results in bringing to light a large number of cultures differing in form and colour. I need not occupy your time, gentlemen, with a description of these variations after M. Sabouraud's excellent demonstration, but I would give a word of caution to those who are beginning the study of the flora of the skin, not to be led away by the impression which these cultures make on his mind, that every variation in form and colour, however constant, is indicative of distinct species. Such an idea will be speedily corrected by applying to these cultures the physiological and morphological tests of which I have just spoken.

Parasiticism of the Keratomycetes.

(1) *Animal hosts.*—According to Friedberger and Fröhner,* calves are, of all animals, the most likely to infection from the keratomycetes, and next to them in point of frequency are dogs. Horses, goats and cats are less frequently attacked, and pigs and sheep still less frequently. Small rodents, rabbits, guinea-pigs and mice are capable of being inoculated with the trichophyta, but I am not aware that they suffer spontaneously. Achorion, however, does occur spontaneously in rabbits, guinea-pigs and mice. The incubation period varies in different animals and in different regions of the skin, and also according to the quantity and virulence of the fungus.

In respect of the geographical and topographical distribution of the keratomycetes there are some interesting points which are not yet cleared up. We find that they are not equally or universally distributed. Ringworm, for instance, is common or habitual in some districts and rare or even unknown in others, reminding us of the distribution of anthrax. In some countries, *e.g.* Holland, France, and Switzerland, it is much more frequent than in others.

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* Friedberger u. Fröhner. *Spezielle Pathologie und Therapie der Haustiere.* Stuttgart, seventh edition, 1908.

A large number of cases are recorded of the transmission of ringworm from animals to man. Contagion may be direct or indirect. It may pass directly from the animal to the servant or attendant, hence its frequency among farm and stable servants, ostlers, grooms, coachmen and cavalry soldiers. As in the case of anthrax so also with the trichophyta, contagion may also take place through the skinning of dead affected animals. Dogs and cats are a frequent source of contagion, owing to their close intimacy with men and children. In the indirect method the fungus travels from one host to another through a neutral intermediary. A father attending on a diseased animal, though unaffected himself, may convey it to his child, or the fungus may pass into the shaving-cup in a barber's shop and may thus gain access to the beard in the act of shaving. Dr. Mabel FitzGerald * records the case of kerion in a boy infected after playing under trees where calves similarly affected had been rubbing themselves. The degree of contagion varies greatly; cases of infection may occur sporadically or in small groups of animals and persons, but occasionally epidemics of larger magnitude are recorded. Matruchot and Dassonville record an epidemic of ringworm in the 12th regiment of artillery in which a fourth of the horses of the regiment were affected. In the year 1840 an epidemic of ringworm occurred in the Swiss village of Andelfingen, in which most of the inhabitants of the village were affected. The epidemic was traced to some diseased cows.

The symptoms of ringworm in animals vary according to the animal, to the species, and to the locality affected in the same animal. When we turn to the leading authorities on veterinary pathology we find, for the most part, that they have not yet begun to distinguish between the several forms of ringworm found. Even Friedberger and Fröhner, in one of the standard works in Germany, the seventh edition of which was published only this year, still speak of a single fungus, Herpes tonsurans, in connection with all forms of animal ringworm. In France, however, there are signs of awakening among the animal pathologists. Matruchot and Dassonville, working under the influence of Sabouraud and Bodin, have written several articles on ringworm fungi. These authors recognise the distinctions between the microspora and the trichophyta. But I am not aware that these authorities on diseases of animals draw

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* FitzGerald. *Journ. of Path. and Bact.*, vol. xii. p. 232. 1908.

any clinical distinction between the attacks of the microspora and those of the trichophyta.

According to Friedberger and Fröhner ringworm in *cattle* is usually confined to the head and neck, but occasionally it may cover the whole body. The disease appears in the form of sharply defined, grouped, scaly or scabbed patches, which may be bald or beset with broken hairs. When crusted the surface of the patches has a grey, asbestos-like aspect. When the scabs are removed the mouths of the follicles are seen to be filled with pus. In adult cows and bulls the disease tends to spontaneous cure—a point of some interest when we compare it with the fact that ringworm in calves is very rebellious to treatment. In sucking calves the disease is usually in the region of the mouth, and this is the usual situation in young lambs, sucking goats and pigs. In several cases it may cover the whole body; the surface is covered with bran-like scales, the hairs break or fall out, resulting in a more or less bald condition.

Ringworm in the dog is most frequent on the head and extremities, but in severe cases it may spread over the whole body. It begins with sharply-defined, disconnected, bald or partially bald patches, most numerous on the head in the region of the lips and eyes. Very often there is no inflammation, and the disease resembles Alopecia areata. The surface of the patches may be covered with grey, asbestos-like scales and beset with broken hairs. If scratched the patches may become scabbed and the skin hyperæmic and raised.

Ringworm in the horse.—The disease is relatively frequent in the horse, and appears to be especially common in France, where it is known as *Herpes contagiosa.* Epidemics may occur in cavalry regiments, and sometimes in foals out at pasture. Multiple circular patches are commonly met with on the back, shoulders, flanks and sometimes on the head. The hair has either fallen out or broken. Desquamation of the cuticle is a marked feature, but it is only occasionally that a vesicular form is met with. This is of special interest when compared with the fact that trichophyta transmitted to man from the horse is especially apt to set up inflammatory suppurative lesions. Usually ringworm in the horse is not accompanied by itching.

Ringworm in sheep.—Scaly or scabbed patches form on the neck, shoulders and back; the wool may become entangled and falls out. It is accompanied by considerable itching.

Ringworm in deer occurs occasionally in small epidemics and is transmissible to man.

Ringworm in birds.—Trichophyta is not uncommonly met with in poultry and is transmissible from these to man. Drs. J. M. H. MacLeod* and J. L. Bunch have described it in a canary from which it was transmitted to children.

In this description of the symptoms of ringworm no attempt has been made to distinguish the ringworm of the microspora from that of the Ectothrix trichophyta, and perhaps the time is not yet ripe for doing so. Matruchot and Dassonville, in describing a form of trichophyta of the horse, mention that the patches were perceptible to touch before they were apparent to the eyes. I have noted the same fact in ringworm due to a microsporon in a terrier dog. Pernet has described Microsporon in a kitten, in which the aspect was much the same as in microsporon capitis of the child. In this case the disease was transmitted to a young woman. Elsewhere † I have recorded an epidemic of microsporon derived from a kitten, in which fourteen persons were infected in addition to another kitten and a dog. The aspect of the patch on the kitten's head was that of a dry scaly area beset with ash-grey broken stumps. Dr. Bunch, in a valuable paper,‡ records eight cases of transmission of keratomycetes from animals to man, with simultaneous and comparative cultures of the respective fungi derived from the animal and human source. In the case of microsporon of the horse the aspect was that of "indistinctly raised vesicles above the right nostril, surrounded by irregular and broken hairs." For the most part, however, there is nothing in his descriptions which essentially differs from that which I have already given.

When we collate and review all the facts which we know regarding the life of the keratomycetes in man, in domesticated animals and in the laboratory on artificial media, we are driven to the conclusion that the normal life of the keratomycetes is saprophytic. What their natural habitat is, what forms they assume, whether under these conditions they are already, under different names, well known to botanists, is for the future to decide. It is open to question whether the keratomycetes as found on the hairy bodies of animals are true parasites. The microspora and trichophyta appear to live solely on the keratinised tissue, and, like Pityriasis versicolor, may not arouse any lymph exudation. Many years ago I showed that they are capable of vegetating in hair removed from the body, and under these circumstances there is no denying the fact that they are pure saprophytes. We must note also, in relation to these facts, that the symptoms of ringworm in animals are simpler and more uniform than in man, and consist for most part of baldness, broken hairs, and desquamation of the cuticle. In man the symptoms vary from these to deep-seated kerion resembling actinomycoses.

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* MacLeod, *Brit. Journ. Derm.*, vol. xiii. 1901, p. 173.

† Leslie Roberts, *ibid.*, vol. xiv. No. 167.

‡ *Brit. Med. Journ.*, February 9th, 1901.

The faculative parasitic power of the keratomycetes is not equally developed in all members of the family. From the rarity with which the endothrix is met with in the human scalp in England and France, we may conclude that it is much less contagious than the *Microspora capitis.* The microspora of the dog and cat appear to be the most contagious to the human species, but wider experience is needed before we can be certain of this. It is certainly true that we do not meet with epidemics of sycosis due to the ectothrices as we meet with epidemics of *Microspora capitis.* Further, the rarity of ringworm in certain districts may possibly be explained by the assumption that the saprophytic prototypes of the keratomycetes are deficient or devoid of the faculative parasitic power. The discovery of the future will be the demonstration of the saprophytic fungi from which the keratomycetes as we know them have descended. There is something to be said in favour of the hypothesis put forth lately by Matruchot and Dassonville, that the microspora and trichophyta belong to the pleomorphous species of the ascomycetes. In some species, *e.g. Gymnoascus* and *Ctenomyces,* which grow on excrements, these authors have observed the formation of gonidia and chlamydospores exactly as in the microspora and trichophyta. Objectively their cultures are said to be very similar to those of the trichophyta. Of course we can never be certain that they belong to the ascomycetes until we discover in them the sexual organs characteristic of the ascomycetes.

Favus and Faviform Fungi.

Achorion and the allied faviform fungi may be conveniently included in the keratomycetes family. They invade the interior of the hair, where the mycelial segments are characterised by great irregularity. The principle mass of the fungus vegetates on the surface external to the mouth of the follicles forming the favus-cup. Under cultivation the fungus shows many close analogies to the trichophyta and microspora, forming endogonidia and lateral gonidia. Achorion in animals produces symptoms very similar to those in man. It forms the same external vegetation, the same felting of mycelium into a saucer-shaped greyish-yellow or sulphur-yellow scab leading to atrophy of the hair. In suckling animals the disease is specially frequent on the head. In cats it is met with generally in the region of the paws, claws and ears, a fact which points to the infection through the mouse, which is a common host to Achorion. In rats and mice it is generally the head that is affected. In dogs the disease gives rise to considerable itching. Rabbits and hares and guinea-pigs suffer from spontaneous favus. Horses suffer but seldom from the disease. Favus in fowls is known as "white comb"; the comb becomes covered with a greyish scab, a sort of concretion which slowly extrudes and thickens, and may persist for some months confined to the comb. It may then spread rapidly over the head and neck and eventually over the whole body. The feathers fall out, the animal becomes emaciated, and may finally die of exhaustion (Friedberger and Fröhner). Fowls have been experimentally inoculated with human achorion. In respect of contagion, favus in the majority of cases is conveyed from person to person. According to Sabrazes and Bodin transmission from animals to man is rare. Sabrazes met with one out of forty-one cases, and Bodin did not find a single case which he could attribute to animal favus out of more than one hundred cases of human favus. Achorion, like most of the other keratomycetes, has a saprophytic ancestry, but the original saprophytic form has not yet been demonstrated.

Animal Parasitic Skin-Diseases Communicable to Man.

According to Leuckart more than fifty distinct species of animal parasites infest the body of man. These are found scattered throughout the various organs and systems, the skin, intestines, connective tissue between muscles, brain, eye. No organ is entirely free. The embryo within the body of the mother may be infected. At least three fourths of the total number of parasites are found in the skin and alimentary canal. The subject of our discussion being limited to parasitic skin-diseases communicable to man, we are fortunately under no obligation to consider these fifty species. We can exclude from our consideration to-day not only the whole of the large group of Nematodes, but even those insects, winged and wingless, which live by sucking the blood or lymph of their hosts. For if fleas, ticks, and lice occasionally pass from animals to man, they do not produce diseases in the strict sense of the word. We are practically limited by the title of our subject to the consideration of the *Sarcoptes*.

Veterinary pathologists distinguish three species of acari parasitic on domestic animals : (1) The *Sarcoptes,* the female of which burrows in the skin in the same way as the *Sarcoptes hominis ;* (2) the *Dermatokoptes,* a species of non-burrowing acarus known in France and England as the Psoroptes ; and (3) the *Dermatophagus* or *Symbiotes,* also non-burrowing acari. All the sarcoptes of domesticated animals, according to Friedberger and Fröhner and others, are transmissible to man. The dermatokoptes and dermatophagus quickly perish on the human skin and produce at most only slight symptoms of irritation. The sarcoptes of the several species of animals appear for the most part to be transmissible from one species to another, but of special interest is the fact that the sarcoptes of man may be transmitted to the horse.

Scabies is a much more serious disease in domesticated animals than in man, and if not treated produces loss of nutrition and may even end fatally as in sheep. The thickness of the hair influences not only the symptoms, but prognosis and prospects of cure ; hence the seriousness of scabies in sheep. The range of hosts of the sarcoptes is very considerable, and includes the horse, sheep, dogs, cattle, goats, cats, and hens. It has also been observed in the lion, leopard, lama, camel, and serpent. Pernet has demonstrated one of the non-burrowing acari in the parrot, in which it produced molluscum-like tumours. Besnier* has recorded a case of scabies in a man contracted from the horse, in which the disease involved, not the whole body of the man, but the face and scalp. The body was covered with rash in which the sarcoptes were found in large numbers. The mite was one fourth greater than the human species. The acarus of the sheep is only rarely transmitted to man. A case, however, is reported by Delaford and Bourguignon which did not get well spontaneously after forty-nine days, and eventually the man had to be treated. The sarcoptes of the pig has been observed in man; an eruption manifested itself the same day in which contact with the animal took place. The acarus of the dog, according to Delaford, may be transmitted to man, but produces only a slight eruption. The acarus of the hen, it is stated, is also transmissible to man.

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* Besnier, *Gale équine chez l'homme Soc. de Dermatologie,* May 13th, 1892.

The sarcoptes of animals, with the exception of *Sarcoptes notoedres* of the cat and *Sarcoptes mutans* of birds, are distinguished from the human mite only by minute differences as to size. Megnin considers them as varieties, and not distinct species.

We need not stop to consider the symptoms of scabies in man, as these are well known to all dermatologists, though I cannot say to all medical men, for in my experience there is no disease more frequently mis-diagnosed than scabies. A word may be said with reference to the symptoms and course of the disease in the horse, from which man is more liable to contract scabies than from the other domesticated animals.

Sarcoptic scabies of the horse usually begins on the head and neck, but it may start, according to the mode of infection, on almost any part of the body. Only very rarely does it spread all over the body, for it is usually limited to the head, neck and shoulders. The itching is extraordinarily severe, more especially at night, leading the horse to rub and gnaw the parts. Circumscribed bald patches appear early in the course of the disease, accompanied by formation of papules and vesicles. The scratched part becomes scaly or covered with scabs. In long-standing cases the skin becomes indurated and fissured, and if the animal be neglected the disease may spread all over the body, the general nutrition becomes affected, and the animal may die of exhaustion. In the milder cases the animal may recover, but in the severer ones, and especially when the disease has been neglected or badly treated, the prognosis is unfavourable.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A meeting of the Dermatological Section of the Royal Society of Medicine was held on Thursday, February 18th, 1909, Dr. H. Radcliffe-Crocker, President, in the Chair.

The President showed (1) a private case of *Xanthoma diabeticorum.* The patient was a stout, florid man, aged 40 years, who had had a great deal of worry in business in the past eighteen months, and the lesions were of about twelve months' duration. The lesions were tender and presented the typical characters of the disease; aggregations of four or five yellow hemp-seed-sized papules on a reddened, vascular base, with occasional telangiectatic vessels over the papules were the most frequent, and chiefly on the buttocks, but there were single lesions also, and on the knees were numerous smaller papules more palpable than visible. There were a few papules on the back of the left forearm and a few on the lower part of the trunk in front. He passed 140 oz. of urine a day, sp. gr. 1021, and there were 11 gr. of sugar in the ounce.

(2) A case of *Pyodermite végétante of Hallopeau* shown some months ago. The patient, a young married woman, had been treated since last July by a vaccine of a rather small-sized *Staphylococcus aureus* prepared by Dr. Emden, the bacteriologist of University College Hospital, from her own lesions. The injections had been made once a fortnight up to about four weeks ago, since which they had been made weekly. The opsonic index to staphylococci before the injections was 1·01 to 1·09; since they have been from 1·36 to 1·65 with injections of 100 and 200 millions, but once when 500 millions were given the index fell to ·93. There had been immense improvement. The back, which had been entirely covered with lesions, had cleared up almost completely. The granulomatous lesions at the nape had much diminished in size, and all the face lesions, except round the nostrils and the left side of the mouth, had healed. The lesions here and on one patch on the back were the result of the last injection, there being a small, slight fresh outbreak immediately following an injection, followed by sound healing of more

of the affected area. The patient's general health and mental condition, which had been below par, had much improved. The previous local treatment of iodoform and starch powder had been continued.

(3) The PRESIDENT and Dr. BUNCH showed a case of *Granuloma annulare* (?) The patient, a girl aged 18 years, noticed some spots on the right arm twelve months ago, and these have since increased in number and extent. Some lesions on the knees have been present about the same length of time. There are now at least four separate patches on the right arm, and the largest is apparently compounded of three others.

They consist of irregular circles, not quite complete, with a raised border about one-eighth of an inch wide, of white flattish nodules. In places the nodules are separated, but generally touching, with slight sulci between them. The central part, which is involuted, is of a somewhat lilac hue and distinctly depressed below the border. The imperfections of the circles are apparently due to the involutions having affected the border. The lesions thus described extend to about two and a half inches below the elbow, but still lower there are two other lesions, one three-quarters of an inch wide where the involution process has proceeded farther, and the border is only just visible and palpable except at the top.

On her knees there are patches like an involuted psoriasis, the surface being distinctly rough on the right knee, but the outer border is like the arm, except that it is somewhat redder, and when pinched up there is very marked thickening of the whole tissue.

On the left knee there is a smaller less-marked lesion, and in both there is a purplish hue, the colour of Lichen planus.

Dr. GRAHAM LITTLE showed (1) a case of *acquired syphilis in a female child, aged* 9 *years*. The history was curious. It would appear from the account given by the mother that a presumably infected "Malthus sheath" had been picked up in the playground of the board school at which this little girl was a pupil, and that she with others had played at blowing out the hollow rubber cylinder. Some three weeks later the little girl's mouth was sore and her lips greatly swollen. When seen she presented all the marks of syphilis, typical secondary papulo-squamous eruption on the neck, mucous tubercles on the vulva and generally enlarged glands. There was no history of syphilis in either parent, the mother, who alone had been seen, showed no symptoms of the disease.

(2) A case of *Lupus erythematosus* treated by zinc ionisation with satisfactory result. The patient was a young girl, aged 14 years, who had begun to have Lupus erythematosus of the diffuse blotchy, not circumscribed, type on the cheeks, the inner canthus of the eye, and the nose. The onset was sudden and the extension fairly rapid, but confined to the face. Treatment with zinc ions was adopted, each patch being subjected to about 6 to 7 milli-ampères of current for from ten to twenty minutes. The *séances* were repeated at intervals of a week or ten days in the case of the larger patches on the cheek; some of the smaller less reddened areas had only one application. The result was most satisfactory; several of the patches had completely involuted leaving a faintly atrophic white site; others are in process of cure and the cosmetic effect could not but be pronounced excellent. The pain of the applications had been quite well tolerated and was probably not great. No other treatment had been adopted except the administration of ichthyol pills 5 gr. three times a day. The exhibitor had had several similar cases, and was well satisfied that the treatment was the most rapid and efficient means at present at our disposal in the treatment of this obstinate disease.

Dr. J. M. H. MacLeod showed (1) a case of *Lupus erythematosus apparently cured by zinc ionisation.* The patient, a middle-aged lady, was sent up to him for consultation by Dr. Hugh Fraser, of Harpenden, suffering from Lupus erythematosus of both cheeks. The patient was otherwise healthy, but as a girl she had had tubercular glands in the neck, the scars of which were prominent. Her sister had died of tuberculosis. On examination the lesions of Lupus erythematosus were as follows: (*a*) a patch about the size of a shilling situated on the right cheek, over the malar prominence, of the diffuse type and covered with typical adherent scales; (*b*) a small, raised, scaly lesion about the size of a sixpence on the left side of the forehead, and (*c*) a small patch on the left cheek. There was also a slightly depressed scar where a patch had involuted. She had suffered from the disease for seven years. Treatment by means of zinc ionisation, using 2 per cent. zinc sulphate, a current of about five milli-ampères for ten minutes at a time to each patch was given on February 28th, 1908, March 13th, 20th, April 3rd, May 1st, 26th, August 21st, September 18th, and October 23rd, in all nine sittings. Under this treatment the diseased patches had been cured. The scaliness and redness had disappeared, leaving a pale, supple, slightly depressed scar, which was very little noticeable. After the first two applications a slight erythematous reaction had supervened, but no reaction had followed the subsequent applications, and the discomfort caused by the application on account of the smallness of the current employed was slight.

The PRESIDENT said he had himself treated a good many cases in the same way, for seven- to ten-minute sittings, but with a current of seven milliampères. His results also had been extremely good. He had never seen a case of the kind made worse by the treatment; all had been improved, and some were cured.

Dr. WINKELRIED WILLIAMS said he had had a case in which ionisation did some harm.

Dr. JAMES GALLOWAY said what interested him in the case was the good result obtained with such a small ampèrage. He understood the President to say he used an ampèrage of seven, eight or nine, but his own experience was that patients were not by any means comfortable under such a strength of current, and the milder strength seemed as efficacious in curing.

Dr. DAWSON said patches of the disease on the scalp did not seem to yield to the treatment. He had treated several scalp cases in that way.

Dr. J. M. H. MACLEOD said he regarded it as very important to have solid zinc electrodes, and much depended on how much the electrodes were pressed home. He got no marked reaction in the present patient. This application certainly did no harm. He had no experience of copper electrodes.

(2) A case of *ringworm of the scalp due to microsporon fungus in an adult*. The patient was a woman, aged 43 years, who came under observation at Charing Cross Hospital on February 12th, 1909, on account of a suppurating patch on the left side of the nape of the neck, quite an inch within the hairy scalp. About a fortnight previously she had felt an itching in the area affected, and on looking at the place in a mirror noticed that the hair had fallen out in a patch about the size of a shilling and that a number of "red pimples" were present over the denuded surface. She applied an ointment of Zam-buk, and the patch became pustular. At the time of examination it had the appearance of a kerion about the size of a shilling. It was irregularly raised about a quarter of an inch in the highest part, dotted over the pustules and presented a number of stumps like those of microsporon ringworm. On microscopic examination the stumps were found to be ensheathed in fungus, which had the

appearance and arrangement of the *Microsporon Audouini.* A specimen of a fully infected stump was demonstrated at the meeting.

The patient had three children, aged 11, 7, and 1 year respectively. These were all affected with ringworm of the scalp due to the microsporon fungus. The appearances of the scalps were typical of that type of ringworm, and there was no tendency to pustulation. The eldest two children had had ringworm for at least six weeks, and the mother had doubtless caught it from one of them.

The case was of interest owing to the age of infection, namely, forty-three, and the fact that in the mother's case the lesion was of the type of a kerion while in the case of the children there was no tendency to pustulation, but simply the typical, dry, scaly patches covered with stumps.

It is probable that the suppurative and boggy state of the lesion in the mother partly resulted from the irritant treatment to which it was subjected, but from what she says it was definitely inflamed and tending to be purulent before she applied the Zam-buk. A number of tubes were inoculated with the fungus, but sufficient time had not yet elapsed for it to grow.

Dr. WHITFIELD showed a microscopical specimen of a mould fungus obtained in a scraping from a case of chronic dermatitis of the glans penis. The patient was an elderly gentleman who had suffered from the disease for some years. He had been under the care of many physicians with occasional temporary benefit, but no one had ever made any microscopical examination of the condition. The whole of the glans penis and the edge of the prepuce were red, excoriated, and much swollen and infiltrated. The condition was so severe that the disease suggested the possibility of its being Paget's disease of the skin. In order to determine the question Dr. Whitfield took a scraping and examined it in potash solution. The scraping was found to be full of a thick felt-work of very coarse, long mycelial elements, and bunches of large round spores. Staining showed that the mycelium was not jointed, but in long homogeneous strands. The fungus did not resist decolorisation by Waelsch's method, and hence was difficult to stain. There had been no opportunity of examining the urine for sugar, but this would be done.

None of the members present recognised the fungus shown.

Dr. A. Winkelried Williams showed a case of *double zoster of the face* in a school-boy. The eruption was preceded and accompanied by severe pain; there was no other illness and no fever when seen with the eruption at its maximum. The eruption was on the region supplied by the inferior maxillary divisions of fifth nerve, the higher auriculo-temporal region excepted. The eruption began over the areas of the mental branches of the inferior dental nerves and the region below the chin bordering on areas of the superficial cervical nerves; this eruption was quickly followed by groups of vesicles extending to the ramus of inferior maxillary bones on both sides. The boy had decayed teeth in the lower jaw on both sides. There was no evidence of syphilis.

CURRENT LITERATURE.

PAPULO-EROSIVE SYPHILIDE IN THE MOUTH AND PHARYNX, WITH PRESENCE OF THE SPIROCHÆTE PALLIDA ABOUT NINE YEARS AFTER THE INFECTION. L. Neilsen. (*Monats. f. prakt. Derm.*, January 15th, 1909, p. 53.)

According to Fournier the most common situation for late secondary syphilides to occur next to the skin is in the mouth, and the most common type of lesion there is the erosive syphilide—"*la glossite dépapillante.*" The case here described is unusual from the fact that the syphilide made its appearance about nine years after the infection and that the lesions were papular. The history of the case is briefly as follows: The patient, a coachman, aged 28 years, was treated for syphilis at the Commune Hospital at Copenhagen in April and May, 1900, being given thirty-six mercurial inunctions, and at that time he had hypertrophic moist papules on the penis and around the anus, universal adenitis, mucous patches on the tonsils, palate, inner side of the lips and left border of the tongue, laryngeal catarrh and leucoderma of the neck. He had had no previous treatment and did not know the exact time of infection.

In September, 1908, he again presented himself for treatment for late secondary lesions. For a few days previously he had had pain in swallowing. On examination a number of slightly raised rounded papules about the size of a pea, with sharply defined edges and a grey eroded surface were detected on the palate, on the tonsils, on the border of the tongue and on the inside of the under lip. In the scrapings from these the *Spirochæta pallida* was found. As there was no suggestion or evidence of re-infection the virus must have remained dormant, possibly in the buccal mucosa, for nine years. The papulo-erosive eruption was of a precisely similar type to that which was present in the mouth eight and a half years previously, and attacked the same situations.

J. M. H. M.

ON THE COLOURING MATTER IN MACULÆ CERULEÆ. Pellier. (*Monats. f. prakt. Derm.*, January 15th, 1908, p. 56.)

There are several theories with regard to the cause of the colour of the maculæ ceruleæ which occur in association with pediculosis corporis. It has been suggested (1) that it is due to pigment in the skin secreted by the pediculi, and (2) that the pigment is blood-pigment, and results from the inflammatory reaction caused by the secretion. With the object of attempting to solve the problem, the writer made a series of preparations of pediculi and nits and examined them under high powers of the microscope. So far as the pediculi went his examination was practically negative, and in only one specimen was he able to detect any coloured particle in the louse. In the case of the nits he invariably found blue-coloured granules or bodies. These were not in the egg itself, but in the chitinous band which attached the nit to the hair, and in the egg-membrane after the hatching of the embryo. The writer considers that this pigment is secreted directly by the pediculus.

J. M. H. M.

SECONDARY GUMMA FORMATION OR GUMMATOUS LYMPH-GLAND INFECTION. G. Ernest Delbanco. (*Monats. f. prakt. Derm.*, February 1st, 1909, p. 95.)

In this contribution the writer records five cases of late syphilis in which gummata occurred on the penis, followed later by gummatous involvement of the groin glands. In two of the cases the gumma on the penis had become secondarily infected and ulcerated so as to closely resemble a chancre, and to merit the name of " pseudo-chancre redux." The special interest of these cases lay in the fact that the groin glands were involved after the gumma on the penis had appeared, suggesting the possibility that the gland was infected from the lesion on the penis—in other words, that gummata were infective. This view, which the writer has held for several years on clinical grounds, has now been proved to be correct by the successful inoculation of apes from gummata, and the finding of the *Spirochæta pallida* in gummata. Referring to the treatment of such cases of late syphilis, the writer recommends the combined use of the red iodide of mercury with iodide of potassium. With regard to atoxyl, he considers that its specific action on the syphilitic virus and its products has not been established, and after a considerable experience of it over a series of cases the writer has abandoned its use in this disease.

J. M. H. M.

ON HYDROCYSTOMA TUBEROSUM MULTIPLEX. W. Stockmann. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 145.)

In the year 1868 Kaposi described a case of small cutaneous tumours occurring on the trunk from the pelvis to the neck, which was studied histologically by Biesiadecki and him. The corium was studded with numerous small spaces, of which the majority were empty or filled with colloid masses. The wall was formed of flattened cells, at most in a double layer. They were regarded as allied lymph-vessels filled with cells, and the tumours were named " Lymphangioma tuberosum multiplex." Only recently have similar tumours been described by other authors and several cases published. In 1887 Jacquet and Darier published a case under the name of "Hydradénome eruptif," without any idea of its identity with Kaposi's case. At the International Congress in 1889 Jacquet stated that he considered the tumours to have sprung from para-epithelial cell nests of the embryonic period. The cases of Török, Max Joseph, Csillag, White, and other observers are discussed in detail in this paper, and Stockmann gives the results of his examination of three cases from Max Joseph's clinic. In Cases 2 and 3 the lesions were noticed in early childhood, in Case 1 only when the patient was twenty-nine years of age. Case 2 died of consumption.

Histological examination showed in the upper and middle portions of the stratum reticulare cutis the epidermal cells branch in various directions, and through cell proliferation there arise in places cell nests, which gradually become transformed into cysts. This is partly through degeneration of the central cells, partly through blocking of secretion formed in secreting gland-cells, or through both processes combined. As the cysts increase in size the columns of cells joining them diminish, so that they lose connection with one another and with the epidermis. The sweat-glands which give rise to these tumours are probably abnormally placed originally, but they may develop so far that they form secreting glands of apparently normal appearance. Columns of cells, however, grow out from their duct into the middle layer of the corium, and behave as above described, becoming transformed into cysts.

The tumours are to be regarded as Nævi tardivi.

J. L. B.

REVIEWS.

The Diagnosis of Smallpox.*

Even to the inexperienced a straightforward case of smallpox should present no insuperable difficulties in diagnosis, but there are many examples of this malady in which for some cause or other the symptoms are so masked or modified that the greatest difficulty in diagnosis may exist, even to the expert, and it is in connection with this type of case that this book is of special value. In such a work as this the two most important factors for its success are probably —first, that its author should have a vast practical experience of the disease in all its phases, and that he should at the same time have a sufficient dermatological knowledge to appreciate the different forms of dermatitis with which aberrant eruptions of variola might be confounded, and second, that the work should be adequately illustrated. Both those essentials have been fulfilled in this volume, for the authors have had the best of opportunities of observing the disease in their capacity as medical officers of the smallpox hospitals and of the River Ambulance Service of the Metropolitan Asylums Board, and the illustrations, consisting of 12 coloured and 110 black-and-white plates, are probably the most complete collection which has yet been published. The plates are, with one exception, from photographs of patients taken by Mr. J. B. Byles, those in colour, which are of exceptional merit, being produced from triple negatives by the Sanger-Shepherd process of colour photography. A series of plates show the influence of pressure in lesions determining an eruption of smallpox, as for example their localisation in the garter-region, in the areas pressed by a collar-stud, brace-button, corsets, boot-laces, etc. A considerable proportion of the letterpress is devoted to the discussion of the differential diagnosis of variola and varicella, the disease with which it is by far the most liable to be confused. Among other considerations in the diagnosis the writers refer to the importance of the precise situation of the lesion in the skin, pointing out that the vesicle in chickenpox is superficial and immediately beneath the horny layer, while that of smallpox is more deeply seated in the epidermis. The superficial position of the vesicle in chickenpox renders it more liable to be irregular or oval in shape than the variolous lesion, which is usually round. In this volume the writers have succeeded in presenting their subject in a simple and practical manner, which will appeal to everyone whose duties bring them in touch with this dire disease.

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* *The Diagnosis of Smallpox.* By T. F. Ricketts and J. B. Byles. Cassell & Co., Ltd., London, 1908. Price 21s. net.

J. M. H. M.

DISEASES OF THE SKIN.*

THE numerous and not inconsiderable advances in dermatology since the last edition was published in 1903 have necessitated the enlargement of the volume by some forty-eight pages, and a number of new plates have been included, among them eight in colours. The *format* of the book has been slightly altered with the view of presenting to the eye a more easily legible page, and, as before, care has been taken that the index shall enable the practitioner to see at a glance the main lines of treatment available in any given disease. The result is to provide a text-book which gives a concise and excellent description of diseases of the skin with an admirable account of their methods of treatment. Not only are the common skin-diseases dealt with, but there are also included those which in England are uncommon, such as pinta, pellagra, and leprosy. As a text-book it is therefore comprehensive, and the student and practitioner will find in it everything they require. The most recent researches on the pathology and bacteriology of the skin have not been omitted, and disputed questions, such as the nature of the organism which is the cause of seborrhœa, are dealt with in a judicial manner. We can heartily recommend the volume both to the student and the practitioner.

J. L. B.

* *Diseases of the Skin: An Outline of the Principles and Practice of Dermatology.* By Sir MALCOLM MORRIS, K.C.V.O. Revised by the Author with the assistance of Dr. DORE. Fourth edition. Pp. 686, with plates. Cassell & Co. Price 10*s.* 6*d.*

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APRIL, 1909.

PEMPHIGUS FOLIACEUS.*

By R. CRANSTON LOW, M.B., F.R.C.P.Edin.,
Assistant Physician to the Skin-Department, Royal Infirmary, Edinburgh.

Since 1844, when Cazenave first described Pemphigus foliaceus, cases have been from time to time shown at various medical societies, and recorded in the journals. Owing to the fact that each observer has only seen at most a few cases in a lifetime, our knowledge of the disease has to be obtained from widely scattered sources. As the number of published cases is still comparatively small, a full record of the following cases may be of value, more especially as they all show certain features of interest to which reference will be made later. The cases were all under the care of Dr. Norman Walker in the Skin Wards of the Royal Infirmary, and to him I am indebted for permission to publish them. The following is an account of the cases:

Case 1.—J. C—, female, aged 51 years, unmarried, housemaid by occupation, was admitted to the Royal Infirmary, Edinburgh, under Dr. Norman Walker's care on June 11th, 1907. She gave the following history of her complaint: About the middle of last August (1906) she noticed a number of small "watery and mattery pimples" on both arms. They were very itchy, and the more she scratched the worse the itching became. The patient describes the lesions as beginning as pimples full of watery fluid, which after a few days became mattery. When they burst they left a raw surface which took a long time to heal up. The eruption continued to come out on

* From the Skin-Department of the Royal Infirmary, Edinburgh.

the arms for about four weeks, and then disappeared completely for a fortnight. Gradually fresh spots began to appear, similar to those seen at first and very itchy. This time they began on the ankles in addition to the arms. They gradually spread over the whole of the lower extremities, and in the middle of October appeared on the trunk, back and front. In the end of December she was admitted to the Bignold Cottage Hospital, Wick. The eruption continued to spread, and in the beginning of the year 1907 it came out on the forehead, from where it spread down over the face and backwards over the scalp. There was no moisture about the face, only dryness and scaling. In February it improved for a time, but got worse again in March. In May the whole body was affected, large blebs appearing chiefly on the hands, arms, and legs. These dried up and the skin peeled off. She remained in much the same condition till admission to the Infirmary, fresh "blisters" appearing from time to time.

Ever since October patient's mouth has felt sore occasionally. She has never noticed any blisters in the mouth. She has also been hoarse for short periods at a time, and has an occasional cough. Although she complains of sometimes feeling very cold, she is fairly well otherwise. Her appetite is very good. She has always been inclined to be constipated. She has been a housemaid all her life, and has been for six years in her last situation near Wick. When the eruption first appeared on the arms she was working a good deal amongst water.

Patient has had no serious previous illness. Has occasional rheumatic pains in right leg, but never had rheumatic fever. Had influenza two years ago.

Family history.—Father died of congestion of the lungs; mother died, aged 78 years, of some kidney trouble. Both father and mother had rheumatism. Patient is the third in a family of fifteen, ten of whom are still alive and well, except one brother whose leg was amputated recently in a surgical ward of the Infirmary for sarcoma. Of the five who are dead, three died in infancy, cause unknown. One brother was suffocated at sea, and one sister died of cancer of the breast. None of the family nor relatives has, so far as is known, suffered from any skin condition.

State shortly after admission on June 12th, 1907.—The eruption is universal, no part of the body being unaffected. The scalp is covered with thick adherent greyish-yellow scales. The face is red and raw looking, and has a somewhat swollen appearance, with some puffiness about the eyes. Here and there there are adherent scales and tags of epidermis, and around the mouth there is some cracking of the skin. The ears are swollen and covered with sodden epidermis. The scalp is covered with adherent crusts, and the hair scanty on the scalp and eyebrows. The whole trunk, back and front, is red and covered with raw, moist areas of irregular outline. Between the raw areas the skin is peeling off in large flakes, and here and there the exfoliating dead epidermis has adhered as sodden masses, forming at places a comparatively thick layer. The illustration of Pemphigus foliaceus in the fourth edition of Dr. Norman Walker's *Introduction to Dermatology* is from this patient, and shows the condition of her skin shortly after admission. The parts which still retain some epidermis are of a bluish-red colour, and the skin looks very thin. The upper and lower extremities are affected with similar raw areas and exfoliating scales, but here and there on the forearms, hands, and legs small, irregular, very flaccid blebs containing a milky fluid are to be seen. Similar blebs and excoriated areas are on the palms and soles, but there are small areas of more normal-looking skin to be seen. The blebs on the limbs are very flabby, and the fluid can be pushed with ease by gentle pressure along under the adjacent epidermis, showing that the layers of the skin are only very slightly adherent to one another. The whole epidermis is very soft, and the slightest friction, *e. g.* with the bedclothes, is able to strip off what skin remains, leaving a raw, moist surface beneath (Nikolski's sign). The finger-nails are slightly thickened, furrowed transversely, but not discoloured. The tongue is furred and shows raw, eroded areas; no blebs or raw areas to be seen in other parts of mouth or throat.

Another very striking feature of the case is the penetrating and disagreeable sickly odour which is exhaled from the whole body. All the glands, cervical, occipital, axillary, inguinal, femoral and supracondylar are enlarged, oval in shape and somewhat hard to feel. They are freely mobile, and not tender to touch.

The general nutrition is fair, although there is a marked want of subcutaneous fat, especially on the extremities.

Circulatory system.—Heart not enlarged. There is a short, soft systolic murmur heard in the mitral and tricuspid areas, best heard midway between these two points. It is not propagated into the axilla. Second sound accentuated slightly. No murmurs in the other areas.

Pulse, 92 per minute, slightly irregular. Vessel wall not thickened. Pulse soft and compressible.

Alimentary system.—Teeth very bad in lower jaw, none in upper jaw ; otherwise nothing of note.

Respiratory system.—Nothing of note.

Urine.—Acid, sp. gr. 1024. No albumen, blood or sugar ; urea, 2 gr. per ℥j.

Treatment and progress.—Before admission to the Infirmary, patient, who was under the care of Dr. George Banks, was treated for a time with pot. iodide internally in 5–10 gr. doses, and arsenic was given up to 10 ♏ doses of the liquor for about three months. For two months immediately before admission she had an iron and quinine tonic. Locally she was treated by various lotions and ointments including lead lotions, Lassar's paste, and tar ointment. Although her general health improved somewhat the skin condition got gradually worse.

Since her admission to the Infirmary on June 11th, 1907, she has had a daily starch bath. As the odour of the skin was exceedingly offensive some potassium permanganate was also added to the bath. This has had the effect of markedly diminishing the odour. After the bath the whole body was dressed with vaseline spread on strips of cloth and bandaged on. After a time ammoniated mercury gr. v to vaseline ℥j was substituted, but had to be stopped as the patient complained of it nipping.

In order to try if possible to harden the skin a 1 per cent. solution of picric acid was painted on the right leg on July 31st, 1907. This was repeated at first on one leg and later on both legs at intervals of three to four days. It seemed to cause a slight improvement at first but the skin tended to crack, and that method had to be stopped.

On August 22nd, 1907, nargol gr. x to zinc paste ℥j was applied to the right knee daily for a week, and on August 27th an ointment of ichthyol ♏xxx to Lassar's paste ℥j was applied to both legs. Neither of the drugs caused any benefit, so vaseline was again applied all over.

From September 23rd, 1907, resorcin gr. ij to vaseline ℥j was applied to the right leg daily till November 7th, without any marked improvement.

On November 15th, 1907, bismuth oxychlor. gr. v to vaseline ℥j was substituted for the vaseline all over the body and limbs. As this ointment seemed to make the patient most comfortable it has been used ever since up till now (August, 1908). Picric acid was again tried for a fortnight on the right arm with not much result.

Ever since admission the scalp has been washed daily with fluid soap, as crusts and exudation accumulated around the eyes; the eyes have been bathed duly with boracic lotion and the lids anointed with a weak yellow oxide of mercury ointment.

Internally various drugs have been tried. On July 1st, 1907, ceredin gr. v *t.i.d.* was given for a fortnight with the object of trying to diminish the suppurative changes on the skin. From July 16th salol was given, at first gr. x *t.i.d.*, later gr. v *t.i.d.* for a month.

From January 15th, 1908, till April 4th she was given liq. arsenicalis, ♏v *t.i.d.*, and from May 26th, 1908, till July 21st, infus. digitalis, ʒj *t.i.d.*

In the end of July, 1907, cultures were made from the flaccid blebs on the legs by Dr. Shennan, Senior Pathologist to the Infirmary, and from these cultures, which showed a pure growth of *Staphylococcus aureus*, a vaccine was prepared by him. Dr. Shennan also estimated the opsonic index to staphylococcus from time to time. The following is a list of the opsonic estimations and vaccines given:

1907.		
August 2	Injection, 450,000,000 Staph.	
October 15	Injection, 400,000,000 ,,	
October 22		Opsonic index, 1·17
October 29		Opsonic index, ·91
November 14	Injection, 400,000,000 Staph.	
November 15		Opsonic index, 1·15
December 6	Injection, 500,000,000 Staph.	
1908.		
January 2	Injection, 500,000,000 Staph.	
January 21		Opsonic index, 1·18
February 11		Opsonic index, ·5
February 19	Injection, 500,000,000 Staph.	

1908.			
March 10			Opsonic index, 1·1
March 11	Injection, 500,000,000	Staph.	
March 30	Injection, 450,000,000	,,	
April 14	Injection, 500,000,000	,,	
May 12	Injection, 500,000,000	,,	
June 8	Injection, 500,000,000	,,	
July 4	Injection, 500,000,000	,,	
July 26	Injection, 500,000,000	,,	
August 20	Injection, 500,000,000	,,	

As is seen from the list, since March of this year no further opsonic estimations have been made.

The injections were given into the back between the shoulders in the ordinary way. As healthy a looking area of skin as could be found was wiped with ether before the injection, and although efficient sterilisation of the skin was quite impossible, none of the injections have given any trouble.

Immediately before the injection was given on March 11th she took a sudden curious choking attack. She sat up and gasped for breath. The breathing was crowing with marked respiratory difficulty. She became much excited and congested about the face. The difficulty in breathing gradually subsided, and she coughed up a lot of mucus. The condition seemed to be a nervous spasmodic one, probably due to the excitement occasioned by the thought of the injection.

All the time the patient has been in the ward, except for the first fortnight, the temperature has been taken four-hourly. It shows a regular evening rise, usually above 100° F., sometimes reaching 101° F. It always falls in the morning to below normal. At quite irregular intervals the temperature has gone up suddenly in the evening to 103° F. or above it, and on August 15th it reached 104·8° F. Each of these occasions it came down again to below normal within twenty-four hours. After none of the injections has there been any extra rise of temperature, except after the injection on June 8th, the temperature rising the same night to 103·8° F. It fell again next morning to normal. On the occasions when the temperature has been very high no alternation has been noticed in the skin condition. These high temperatures could quite well be accounted for by occasional exacerbations of the bronchitis with which she is from time to time troubled.

On the assumption that the skin condition might be due to some intestinal toxæmia the urine was examined almost daily for a time for the presence of indican. For assistance in these estimations I am indebted to Dr. John L. Annan, who was acting as clinical assistant at the time. The following table shows the number of times on which indican was found. It also shows a marked deficiency in urea excretion. This deficiency has been commented on by several other observers in such cases:

Date.	Quantity in 24 hours in ounces.	Urea in grains per ounce.	Total grains urea in 24 hours.	Presence of indican.
1907, July 18	—	2	—	−
,, ,, 20	10	3	30	−
,, ,, 21	62	3·5	217	+
,, ,, 22	50	2·5	150	−
,, ,, 24	45	2	90	−
,, ,, 26	75	2	150	+
,, ,, 29	43	3	129	+
,, ,, 30	62	3	186	+?
,, ,, 31	63	2·5	157·5	+?
,, Aug. 1	56	3	168	−
,, ,, 2	70	3	210	−
,, ,, 3	64	3	192	+
,, ,, 5	60	2·75	165	+
,, ,, 6	?	2·5	—	+
,, ,, 8	?	2·75	—	+
,, ,, 9	?	3·25	—	+?
,, ,, 10	60	3	180	+
,, ,, 12	78	2·5	175	−
,, ,, 13	54	2·5	135	+
,, ,, 14	63	3·5	220	+
,, ,, 15	40	2·75	110	+
,, ,, 17	40	2	80	+
,, ,, 19	57	2	114	+
,, ,, 21	60	2	120	−
,, ,, 22	45	3	135	−
,, ,, 23	54	2	108	−
,, ,, 24	?	3	—	+
,, ,, 26	?	2·5	—	+
,, ,, 27	?	2·5	—	+
,, ,, 28	?	3	—	+
,, ,, 29	?	2	—	+
,, ,, 30	?	2·5	—	+
,, Sept. 2	20	2·5	50	+
,, ,, 3	?	2	—	−
,, ,, 5	?	2	—	−
,, ,, 6	?	2	—	−

Chlorides were present in abundance on several occasions on which they were tested for.

The condition of the blood as seen by the examination of stained films has not been very constant on all the occasions on which it has been examined. Films were made and stained by Jenner's or Leishman's stain. Differential counts of over 500 leucocytes were made each time, with the following results:

	May 22nd, 1908.	May 26th, 1908.	June 3rd, 1908.	June 6th, 1908.	July 11th, 1908.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Polymorphonuclear leucocytes	50·4	58·6	55·7	54·6	64·6
Lymphocytes	18·6	25·0	22·5	18·6	17·6
Large mononucleated leucocytes	10·3	4·1	4·5	6·6	4·5
Transitional leucocytes	1·02	0·7	2·1	1·6	1·8
Eosinophile leucocytes	11·8	4·1	6·4	13·0	3·7
Unclassed cells	7·8	4·2	8·6	4·6	7·6

On July 14th, 1908, the total leucocytes were 14,060 per cm., and on July 16th, 1908, 6000 per cm. None of the films showed an excessive proportion of leucocytes. The number of eosinophiles varied considerably, but was always above normal, the average being 7·8 per cent. There was no appreciable difference in the skin-eruption either before, during, or after the times when the eosinophiles were most numerous. Many of the eosinophile leucocytes show vacuolation. In others of the eosinophile cells the protoplasm is bright red, and with the high power more homogeneous than in the ordinary eosinophile leucocyte. Such cells were all counted as eosinophiles, as the protoplasm was seen under the oil immersion to consist of typical large granules very closely packed together.

All the films showed a number of cells which could not be classed. Most of these were large cells stained pale blue. Some had large nuclei with traces of protoplasm around; others had pale branched nuclei, and fragmented protoplasm spread out in all directions. They correspond exactly to the cells described in Pemphigus foliaceus by Leredde, who describes them as cells peculiar to that condition. They will be referred to again later on.

General progress.—Since admission (during about fourteen months) the patient's general strength has been well maintained. She weighed 6 st. 2½ lb. on admission, and has been weighed every week since. The weight has only fluctuated within a few pounds, and she now

(August 14th, 1908) weighs 6 st. 7 lb. Her appetite has always been exceptionally good, and she has been on an ordinary light diet. The bowels have been fairly regular; only on three occasions has there been slight diarrhœa.

The condition of the skin on the whole has very slowly improved. The odour from the skin is now very much less. This we attribute to the regular potassium permanganate baths. From time to time small flaccid blebs have appeared, which soon burst, leaving excoriated areas. But exfoliation and the formation of moist surfaces have gone on all the time without the formation of definite blebs. The skin is now paler, and both on the trunk and limbs there are considerable areas, which are covered with a skin, which although feeling thinner and looking slightly redder than normal, is able to withstand friction without injury, whereas on admission there was not a square inch of whole skin on the body, and what little skin there was was quite easily rubbed off by any slight pressure.

On August 3rd, 1907, some of the blebs on the legs were hæmorrhagic, but at no other time have hæmorrhages been noticed.

The only other point of note is the condition of the hands and feet. They have gradually developed a hyperkeratosis, which is more marked on the hands than on the feet. The palms show a marked papillomatous thickening, which is dry and greyish-black at places. There is also a tendency to fissuring between the horny masses. On the backs of the terminal phalanges and tips of the fingers the skin is thicker than normal, of normal colour, but shows a very fine network of irregular depressed lines, which do not seem to correspond to the normal lines of the skin. At places it has a stippled appearance not unlike the surface of Lupus erythematosus. The feet are similarly, although to a less degree, affected. The backs of the toes also show this peculiar change to a slight degree. This change is not present on any other parts of the body.

Case 2.—C. N—, female, aged 53 years, married, was a laundress and waitress by occupation in Kirkcaldy. Admitted to the Royal Infirmary under Dr. Norman Walker on December 26th, 1907.

The present illness began eleven years ago, when she had a "lump" on the top of the scalp. Clear fluid came out of this "lump," which continued to discharge off and on for three years. Two years after this lump appeared on the scalp a small spot covered with blisters appeared on the chin. This " sore place " on the chin grew gradually bigger. These spots were never itchy. Then she had attacks of what she describes as " hot flushings " of the whole body, accompanied with a " prickling " sensation, but no blisters were noticed. During the next three years or so she had such attacks once or twice a week, and although feeling weaker than she used to she was still able to go about her work. The blisters began to appear on the body and arms, which were slightly itchy.

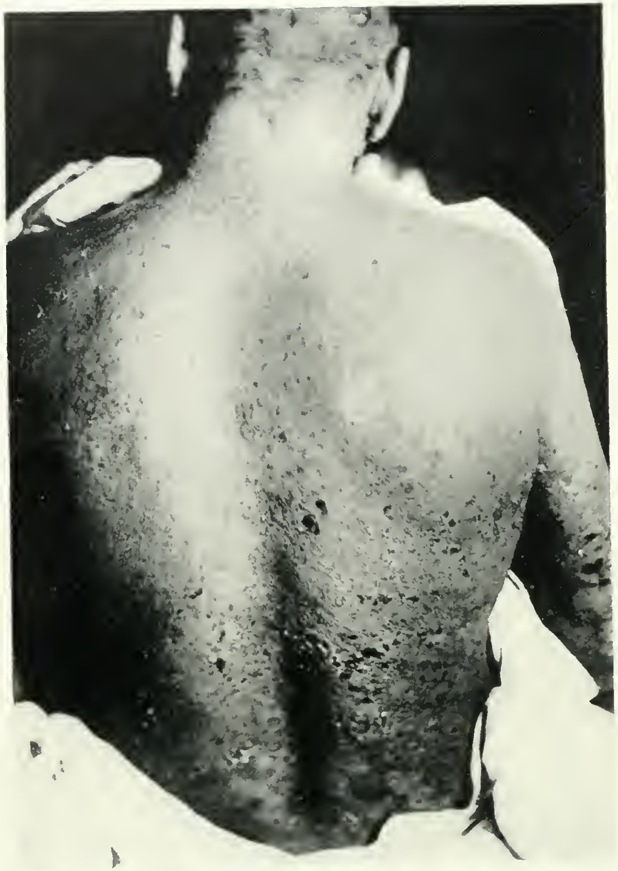
In August, 1900, she was admitted to the Infirmary under Dr. Allan Jamieson. At that time the whole body, limbs, and face were affected. Fresh crops of blisters, which were now very itchy, came out, and after bursting left oozing moist surfaces, which crusted over. The face was also all crusted and oozing at places. She was in the Infirmary for nine months and then was transferred to the Longmore Hospital for Chronic Diseases, where she remained about a year, after which she went home. She remained fairly well for three years or so, being able to get up and go out a little. She had a severe attack of influenza nearly four years ago, and since then has been worse, fresh crops of a very itchy eruption coming out. For three years the skin has been scaly all over, and fresh blisters have been coming out right up to the time of last admission. For two months before admission she had also had a very hot feeling in the skin accompanied by a tingling sensation. Apart from the skin condition she has always felt fairly well. Menstruation quite regular up till forty-four.

She worked for five years as fishing-net machinist, and for some five years after she was married worked as a laundress and waitress. Her hands were never affected by her work.

Previous illness.—She had rheumatic fever at eighteen years, and again twice after she was married. Had Lupus erythematosus of the scalp in 1900, for which she was treated by Dr. Allan Jamieson. There is now an elongated scar on the fore part of the scalp.

Family history.—Has had six children, three of whom died in childhood. One miscarriage at fourth month after the third child. One of the children, which died at six years of inflammation of the lungs, suffered in infancy from eczema of the scalp. None of the others had any skin trouble. So far as patient knows none of her relatives have had any skin-disease.

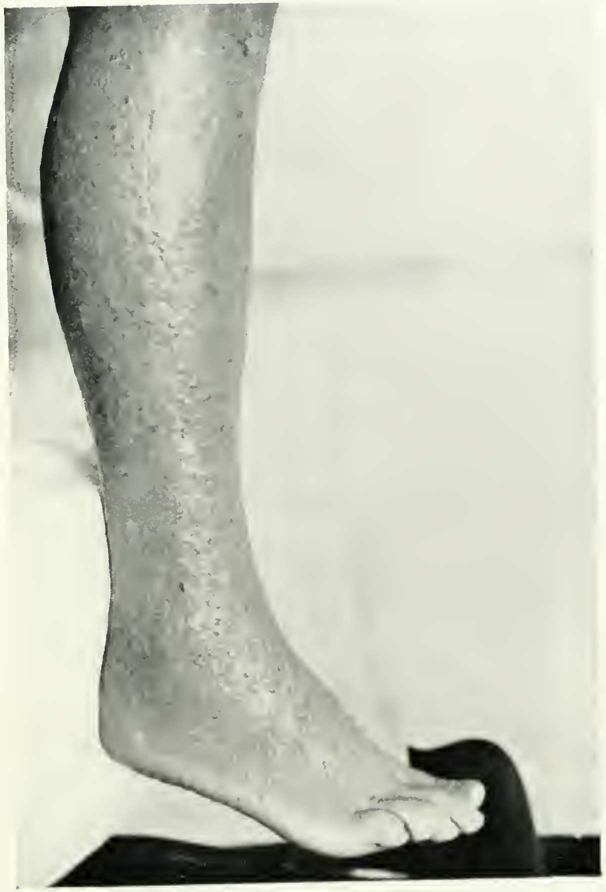
FIG. 1.



Pemphigus Foliaceus (Case 2).

(Photo by Dr. Gardiner.)

FIG. 2.



Pemphigus Foliaceus (Case 2), showing hyperkeratosis.

(Photo by Dr. Gardiner.)

TO ILLUSTRATE DR. R. CRANSTON LOW'S ARTICLE ON PEMPHIGUS FOLIACEUS.

A few days after admission her condition was as follows: The whole body is affected with the exception of the palms and soles. The scalp is crusted at places, the hair scanty, and the whole face is red, scaly, cracked, and covered with crusts, but shows no definite blisters. The trunk, back and front, is slightly brownish in colour and scaling profusely, with here and there small blebs and moist, crusted areas where previously blisters have burst. There are areas, especially on the back, where the skin is fairly healthy. The limbs show more eruption than the body. There are very numerous small blebs full of clear fluid at first, but later becoming purulent. These blebs can easily be pushed along under the skin from place to place. Especially about the knees there are large, moist, raw surfaces with no visible blisters. The nails of the first and second fingers of the right hand, and of the thumb, first and little finger of the left hand are of a peculiar bluish colour. The nail feels painful and the nail-fold is swollen and tender. The nails look as if they had hæmorrhagic blebs under them. The palms and soles show a few small blebs, otherwise the skin is normal there. The general appearance of the skin is very similar to that of Case 1, but there are more definite blisters, and the intervening less affected skin is more resistent to touch than in Case 1. There is some odour from the skin, but also not so strong as in Case 1. The backs of the fingers and toes also show the same peculiar wrinkled thickening as in Case 1, but in a still more marked degree. It is also to a less marked extent seen on the skin of the trunk and limbs. There are no lesions in the mouth or throat. All the lymphatic glands are enlarged and hard to the feel.

Alimentary system.—Tongue furred. Teeth nearly all gone in upper jaw; the other teeth very bad. Otherwise nothing of note. Cardiac and respiratory systems normal.

Urine.—No albumen; no sugar.

The *blood* has been examined on several occasions since admission. On June 8th the total leucocytes were 14,000 per c.m., and on June 24th 6800 per c.m. The films were stained by Jenner's stain, and the following differential counts were made, over 500 leucocytes being counted in each case:

	May 22nd, 1908.	May 24th, 1908.	June 3rd, 1908.	June 3rd, 1908.	June 8th, 1908.	June 24th, 1908.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Polymorphonuclear leucocytes	63·8	64·6	55·6	64·3	59·3	49·8
Lymphocytes . . .	19·7	19·4	28·2	12·3	22·6	32·3
Large mononucleated leucocytes	4·9	4·2	4·9	9·5	3·5	5·9
Transitional leucocytes .	1·3	0·7	0·7	2·5	0·7	—
Eosinophile leucocytes .	8·3	10·9	11·5	11·6	13·2	11·8
Mast cells	—	0·2	0·8	—	0·6	0·5

The eosinophilia is much greater in this case than in Case 1, the average count being 11·2 per cent. It also remained high although the skin-eruption showed a steady improvement.

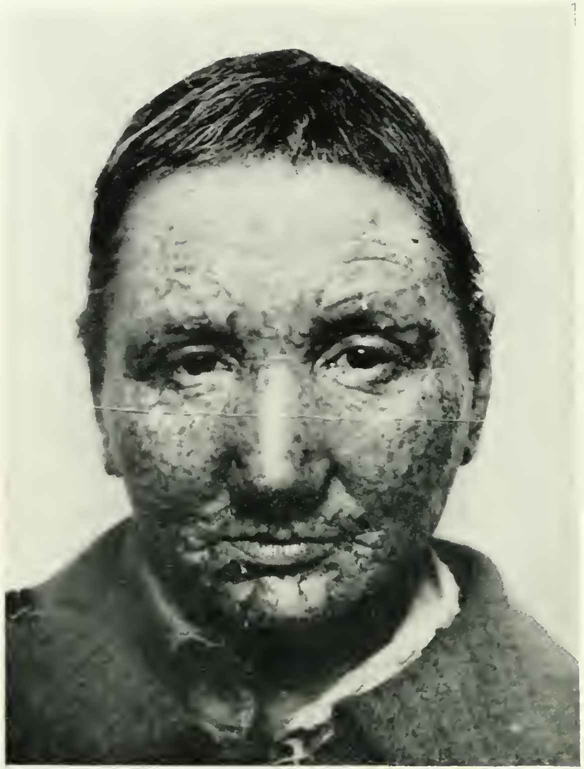
Progress and treatment till she left the ward on June 17, 1908.—As in Case 1 the patient had a daily bath with pot. permanganate. Various ointments were used, of which the most useful were hydrarg. ammoniat. gr. v to ℥j, and the same ointment of bismuth oxychlor. gr. v to vaseline ℥j as was used in Case 1. A 1 per cent. picric acid solution was tried on the arms, but had to be stopped as the skin got too dry and tended to crack.

Internally she was given liq. arsenicalis ♏v *t.i.d.* from March 1st to April 15th, when iron was added.

Cultures were made from the blebs, and a vaccine of the staphylococci so obtained was made by Dr. James Ritchie, Superintendent of the Royal College of Physicians' Laboratory. The injections, which contained each 250,000,000 staphylococci, were given on January 10th and 25th, March 2nd and 24th, April 7th and 21st, and June 10th.

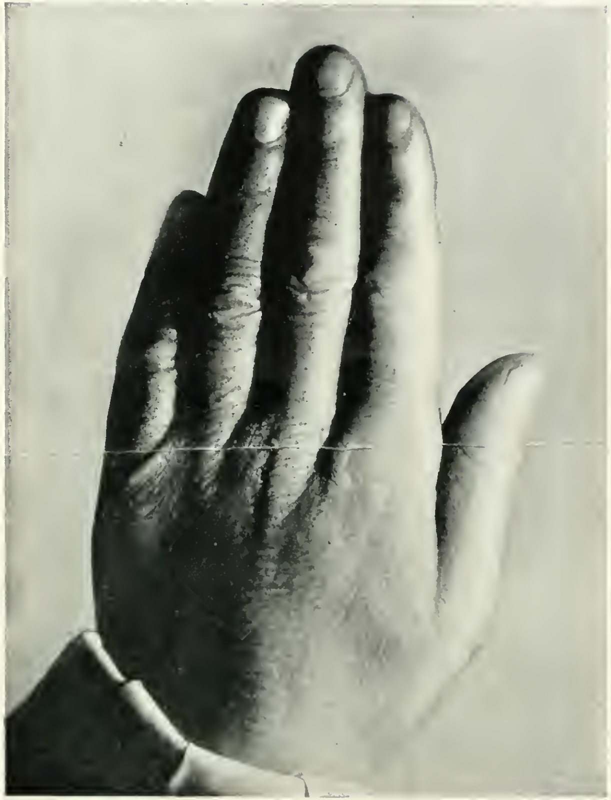
The temperature was normal all the time except on February 11th, when she developed symptoms of pneumonia with a temperature of 102° F. The temperature remained up for a week and fell by crisis. She said she had had similar attacks at home, but with less cough. The high temperature did not in any way affect the skin condition. During her whole stay in hospital fresh blebs, which were sometimes of considerable size, continued to appear. The general redness and scaling diminished, except on the face, which still remained scaly and cracked (see photo). On the body and limbs there were large areas of comparatively healthy skin, and latterly the eruption, except for the face, was more vesicular and bullous than exfoliating

Fig. 3.



Pemphigus Foliaceus (Case 2), showing condition on leaving hospital. (Photo by Dr. Gardiner.)

Fig. 4.



Hand in Case 3, showing hyperkeratosis due to arsenic.

TO ILLUSTRATE DR. R. CRANSTON LOW'S ARTICLE ON PEMPHIGUS FOLIACEUS.

in character. When she left hospital in 1908 the face was still very red, cracked and scaly all over, and the whole skin of the trunk and limbs showed a rough, slightly hyperkeratotic appearance, except on areas where blebs had recently been.

Case 3.—S. F—, female, aged 45 years, clerkess and book-keeper, was admitted to the Royal Infirmary on June 27th, 1908, complaining of an eruption which began about thirteen months previously. At that time her mother was very ill, and the patient had a great deal of worry and work to do. The eruption appeared on the scalp, front of body and on the shoulders as itchy spots, but no blisters were noticed then. These spots soon disappeared and nothing was noticed till about six months ago, when again spots appeared on the wrists, elbows and knees. As before, the spots were very itchy. Since then fresh eruption has always been coming out from time to time on different parts of the body. She was able to go about her work as cashier and book-keeper till four months ago. At that time all the upper and lower extremities were affected. It improved slightly till about a fortnight before admission, when fresh spots appeared on the head and trunk in addition to those on the limbs. She has always been of a very nervous disposition.

Previous illnesses.—Had pleurisy at thirteen. Used to have headaches regularly after her menstrual periods. Menstruation stopped five years ago, but she still had headaches regularly every month till the skin-eruption came out. Since then she has had no more headaches. Three years ago she had rheumatism in both ankles.

Family history.—Mother aged 70 years, alive and well. Father died at forty-eight of "mason's trouble" in lungs. Had seven sisters, three of whom died in infancy. No history of skin-diseases in the family.

State on admission.—The whole scalp is covered with greasy yellow scales, which mat the hair together. The forehead is also crusted over, with here and there raw areas and cracks. Towards the lower part are two round raw areas which look as if blisters had been present and burst. The skin below left eye is scaly, with red areas covered with crusts. The neck shows red areas of circinate outline, and on the edge of these areas are flaccid blisters and excoriations from scratching. The central part of the areas is bluish-red in colour.

On the back and front of the body there are similar lesions, but without circinate outline. There are areas of apparently healthy skin alternating with raw areas denuded of surface epithelium. These raw places are bright red, moist, and the edges are outlined by exfoliating epidermis. The eruption is extensive all over the front of the chest, extends into the axillæ and down over the front of the abdomen, where it has a distinct margin. On the back are similar flaccid blebs and raw areas, with a good deal of intervening healthy skin. There is an area round the waist practically free from eruption. The pubic region shows raw surfaces with crusts here and there. The thighs and legs are covered with blisters, which are flaccid at some places; at others they are tense and full of clear fluid. Those on the legs have a brownish colour, and many of them are arising from normal skin with no erythema around. These blebs seem to dry up and leave yellow-brown areas of thickened skin. There are a few blebs on the palms and soles. The backs of the fingers and toes show a slight degree of thickening and wrinkling similar to that seen in Cases 1 and 2. No eruption in the mouth. The glands are not enlarged anywhere. The cardiac, respiratory, alimentary and urinary systems show nothing of note.

Progress and treatment.—Before admission patient used for some months an ichthyol ointment and later on ichthyol lotion, and also took arsenic internally for some months. For a fortnight before admission had strychnine internally, and locally potassium permanganate baths.

On admission she was given liq. arsenicalis ♏v *t.i.d.* for a month, when sod. salicylate gr. x *t.i.d.* was substituted. Locally she has had a daily boracic bath, and was at first treated with ammoniated mercury ointment gr. v to ℥j for a few days till the crusts were removed. Then bismuth oxychlor. gr. v in ℥j vaseline was used for about a fortnight. After that she was put on ung. sulphuris for a month, and under this she improved a great deal. The scalp was treated with starch poultices for the crusts and ammoniated mercury ointment, then a sulphur and salicylic acid ointment, later an ointment of tannic acid gr. xv to ℥j vaseline. She was taking two pints daily of ordinary water (in addition to the rest of her diet) according to the method suggested by Dr. Johnstone, of New York, some time ago for the treatment of Dermatitis herpetiformis. For a month she also had ♏ss liq. atropin sulph. *t.i.d.*

During her stay in hospital fresh blebs have appeared from time to time especially on the limbs. About a month ago over the legs and knees a red circinate eruption appeared. There were distinct concentric erythematous rings. This eruption was not itchy and showed no blebs and disappeared in a few days.

The number of fresh blebs gradually diminished, till at the end of August the body and limbs were practically free from eruption. There are still some raw areas on the forehead and scalp, which are healing rapidly.

This patient also has developed since admission a marked yellowish thickening of the palms and also to a lesser degree of the soles. She also shows an increase in the peculiar thickening and wrinkling of the skin on the backs of the fingers and toes. The backs of all the fingers and toes in all their length show thickening of the skin and a network of fine lines (see illustration).

The temperature at first was irregular, with rises to about 100° F., but during the rest of her stay in hospital it has been normal.

Blood examinations.—Three days after admission the differential leucocyte count was: Polymorphonuclear leucocytes, 64 per cent.; lymphocytes, 14·9 per cent.; large mononuclear leucocytes, 4·5 per cent.; eosinophile leucocytes, 15·8 per cent.

On August 23rd, when the skin-eruption was very much better, the count showed an even greater number of eosinophiles, being as follows: Polymorphonuclear leucocytes, 46 per cent.; lymphocytes, 19·3 per cent.; large mononuclear leucocytes, 9·4 per cent.; transitional leucocytes, ·7 per cent.; eosinophile leucocytes, 23·3 per cent.; mast cells, ·7 per cent.

Patient left hospital in the end of September and was seen again recently (middle of October), when there were patches of fresh eruption scattered over the body. The eruption was vesicular and erythematous, as is seen in ordinary cases of Dermatitis herpetiformis. There was now no sign of exfoliation. The thickening of the skin of palms and fingers was as before. There was no hyperkeratosis of the skin of the trunk.

Of the three cases just recorded the first two are undoubtedly examples of Pemphigus foliaceus. The third case, although showing at first an appearance somewhat like Pemphigus foliaceus, differs in many ways from the other two. The head, face, and large areas of the body were red, oozing, and the skin peeling off in large flakes. Fairly tense bullæ and vesicles were also to be seen especially at the margin of the exfoliating areas. The character of these lesions at once excluded the idea of the oozing areas being eczematous in character. The raw exfoliating areas were all such as might have been left by the rupture of previously existing bullæ. Fresh bullæ continued to appear for a time and raw areas gradually healed up, and when last seen there was no exfoliation, only small groups of fresh blebs with an erythematous area around here and there. The only part which had not healed up was the forehead, which was still red and raw looking. Although the eruption was not very itchy it had the multiform character of Dermatitis herpetiformis. Many lesions were purely erythematous in character, with a patchy and often ringed or circinate arrangement. These erythematous spots were seen chiefly on the limbs, and alternated with the appearance of vesicles and bullæ. At no time was the whole body affected at once as in the other cases. The patient's general condition was unaffected and her temperature was always normal. Her skin had not the disagreeable odour associated with the other cases. The blood showed a high eosinophilia (over 20 per cent.). Taking these various points into consideration, therefore, I regard Case 3 as a severe case of Dermatitis herpetiformis, and as illustrating the close resemblance that Dermatitis herpetiformis may show to Pemphigus foliaceus.

(*To be continued.*)

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A meeting of the Dermatological Section of the Royal Society of Medicine was held on Thursday, March 18th, 1909, at 5 p.m., Dr. H. Radcliffe-Crocker, President, in the Chair.

The following cases and specimens were shown:

Dr. Adamson showed cultures of *Achorion Quinckeanum* of Bodin from a case of mouse favus affecting the glabrous skin of the human subject. The patient was an infant, the child of English parents, of a few months old, who presented on the left cheek a circumscribed patch of small sulphur-yellow favus scutula. There were no other cases of favus in the house, and no cat, but there were "swarms of mice." Inoculation of pieces of scutulum on glucose-agar and on maltose-agar had yielded the typical downy white cultures of Achorion Quinckeanum now exhibited. There had been, so far, no opportunity of examining any of the mice.

This kind of favus had been found on the mouse by Bodin and by Sabouraud, but it had been regarded as of exceptionally rare occurrence in human beings, one (or two) cases by Bodin being the sole examples recorded. The object of the exhibitor in showing these cultures was to call attention to the fact that this was his second case due to this particular form of mouse favus which he had observed within the past six months, a fact which suggested that it might be of more common occurrence than had formerly been supposed. A photograph of the first case in which the lesion was on the neck of a boy had been reproduced in the Transactions of the Society (November, 1908, p. 2, Dermatological Section).

Dr. J. L. **Bunch** showed (1) a case of *Urticaria pigmentosa* in a girl, aged 10 years. There were somewhat numerous papular and nodular lesions on the chest, back, and arms, some of a yellowish tint, some rather pinkish in colour. Gentle rubbing of the lesions caused them to increase in prominence and become more definitely raised above the surface. On the right side of the neck was a yellowish patch, 1½ by 1 in. in diameter, composed of closely approximated nodules with pigmentation of the nodules and of the intervening skin. Below the right nipple was a still larger patch, 2½ by 2 in. in diameter, reddish in colour, somewhat irregular in outline and uneven on the surface. In the centre of this area was a raised portion, ¼ in. in diameter, somewhat more deeply pigmented than the rest. This, the largest patch, was the first to appear eight years ago and had increased slowly in size during the succeeding years. The patch on the neck had been present about three years. The mother stated that no patch which had at any time shown itself had afterwards disappeared. Factitious urticaria was slight.

There was a history of diabetes in the family, one aunt and one uncle having died of diabetes, but the patient had no sugar in the urine. One sister had died of tuberculosis when aged nine.

(2) A case of *trophic lesions in a boy*, aged 4 years. The child

developed anterior poliomyelitis last July and was an in-patient at the North-Eastern Hospital for Children from July to September.

Since this time the left leg, which was the only limb affected, has been slightly swollen, œdematous and cyanosed. Last December he came under his care at the hospital for a circular, small red patch on the left leg about two inches above the ankle, which gradually increased in size, became paler in the centre and superficially ulcerated. When this ulceration definitely showed itself, it was surrounded by a pinkish ring and outside this a purplish zone which gradually faded into the bluish tint which was present over the whole leg below the knee. During the last two months this superficial ulceration has slowly increased in size, with a peculiar circinate progression, so that its shape is now roughly that of a horse-shoe, the centre of the area, which measures about three inches in diameter, remaining free, as also does one portion of the rough circle. As the ulceration progressed the red and purple zones beyond it were always evident. Several similar spreading lesions are also present now on the leg and on the sole of the foot, but have not as yet shown any signs of ulceration. The red zone surrounded by a purplish zone is distinct in each case.

Electrical treatment had not improved the circulation of the limb.

The case seemed of interest inasmuch as the original diagnosis was that of an affection of the cells of the anterior cornua of the cord.

One brother died of diabetes, but the patient has no sugar in the urine.

(3) Sections of case of Granuloma annulare shown by the President and Dr. Bunch at the preceding meeting of the Society.

Dr. Colcott Fox brought a man, aged 37 years, suffering from *Acne varioliformis*. The eruption has recurred for three years, especially in the winter months. There were a few typical papulo-nodules on the face and scalp, and many pitted scars on the nose and along the border of the scalp on the forehead. Dr. Fox brought the case to demonstrate the well-known feature that the scars, where they formed on the trunk, might be very large. There were a few of these large rounded scars on the upper back and on the chest.

The President said he had had a case with larger lesions than the present ones. In one case which he had under observation some years, the whole face looked as if it were the seat of smallpox. His chest was a mass of scars and there were some on the back. He had treated them with large doses of perchloride of mercury without any local applications. He had formerly given such cases iodide, but that practice he had now stopped.

Dr. WHITFIELD said he had treated some cases of the same kind with inoculations, and they did fairly well. He considered that Sabouraud's view as to the etiology was correct and that they all had seborrhœa. Probably there was some peculiar soil for the condition in the subjects of it.

Dr. GRAHAM LITTLE showed *a case for diagnosis*. The patient was a gentleman, aged 40 years, a patient of Mr. Stansfield Collier. He was married and had never had syphilis, but he had had gonorrhœa in early manhood. Eighteen months ago, or thereabouts, he had begun to notice some hard patches on the glans penis; these had been reddened at first and had given rise to no subjective symptoms. They had become white later and had remained hard. The tissue round the urethral orifice was whitened and hard—like a "parchment chancre"—and a distinct cartilaginous-like consistence could be made out in this area. No other similar patches existed elsewhere. The condition had been treated with ointments and later with radium; the latter had appeared to improve the local hardening. A small telangiectasis was present on the left side of the glans, in the middle of one of the whitened patches; this had possibly been caused by the application of radium.

The exhibitor thought it might possibly be a case of *sclerodermia*, but had never seen that disease in such a position.

No other diagnosis was offered. Several members supported that of sclerodermia.

Dr. J. M. H. MACLEOD showed two *cultures of ringworm* from the cases of microsporon ringworm in a mother and child exhibited at the last meeting of the Section. In the case of the mother a kerion-like patch of ringworm was present on the occiput, and on the child there were several scaly patches with numerous stumps, but no tendency to suppuration. The intra-follicular portion of a hair from each case was planted on maltose-agar, and in due course identical cultures appeared in both tubes which were typical of the *Microsporon Audouini*. The cultures thus confirmed the clinical and histological diagnosis. The interest of the case lay in the fact of the occurrence of microsporon ringworm in an adult scalp and the fact that the lesion produced there was of the kerion type. The suppuration may have been due to the secondary inoculation of the lesion with pus cocci.

Dr. Radcliffe-Crocker showed a private *case for diagnosis.* The patient was an officer who, twelve months ago, soon after his return from the Soudan, developed on his right orbit a red papule which he supposed was an insect bite. This developed into what one English surgeon thought was a blind boil and punctured it, but no pus came out, only blood; subsequently another surgeon in November last thought it was a suppurating sebaceous cyst and endeavoured to remove it. It recurred, and when first seen by the exhibitor was rather larger than before removal and formed a tumour on the edge of the right orbit about the size of a hazelnut, a little redder than normal skin from some dilated vessels, of about the consistence of a cherry, with a small scab in the centre, which when removed gave exit to a bead of pus and left an ulcer about one eighth of an inch deep and of the same diameter. It was quite painless. The idea of an oriental sore of the "Biskra bouton" type had been thought of, but it did not quite correspond to this, and the opinion of the meeting was desired.

No member of the Section made a positive diagnosis, but all agreed that a cultivation should be made, and that X-rays or radium should be tried before excision was undertaken. The patient, however, was disinclined to wait longer and Mr. Clayton Greene excised it two days later, and Dr. Bunch, whose report is below, had made cultivations and sections.

"Examination of stained films and sections showed the absence of acid-fast organisms, streptothrix, and Leishman-Donovan bodies.

"Both films and sections showed the presence of cocci, and in the films chains of streptococci were fairly numerous. Cultivations were made on agar and in broth and the streptococci isolated.

"Sections stained by Pappenheim's method proved to contain numerous plasma-cells, and the histological structure of the lesion was consistent with its being an infective granuloma."

Dr. Galloway said his opinion was that it was a granulomatous lesion, a new growth in that sense, but not in any other. His inclination was to try methods of treatment other than excision, unless Dr. Crocker was satisfied that such measures had had a fair trial and failed.

Dr. MacLeod said it was evidently granuloma, and was probably a form of oriental sore. He would recommend in the first instance treatment by means of a Finsen lamp, as he had found that lesions of the type of "septic granulomata" were much benefited by this treatment.

Dr. **Whitfield** suggested an examination of a bead of pus, as he had a suspicion that the condition was tuberculous. That point could be settled by inoculation.

Dr. **Pernet** said he had seen the "Biskra button" in Biskra itself in various stages, and the appearances were none of them like that presented by this patient. He suggested the use of ung. hydrarg. as an emplastrum. He had a case some time ago somewhat similar, apparently.

Dr. **Sequeira** showed (1) a boy, aged 6 years, to illustrate the effects of the *X-rays on scar-keloid*. The patient had been attending the Orthopædic Department at the London Hospital under Mr. Openshaw, and was sent by him to Dr. Sequeira for treatment of extensive keloid of the scar of a burn of the face. The burn occurred two years ago and took four months to heal. The chin and both cheeks in their lower parts were the seat of extensive scars with great thickening. The condition of the right side is illustrated in the photograph (1). At Mr. Openshaw's request only one half was treated by the X-rays. The parts were exposed at intervals of a fortnight to pastille doses of the rays. Each part has had from eight to ten pastille doses. There has been no inflammatory reaction whatever, and the areas are now quite soft and supple and show a marked contrast to the similar lesions on the untreated side (photo 2). Dr. Sequeira remarked on the better results obtained by the X-rays than by the injection of thiosinamine and fibrolysin, which he had tried in similar cases.

Dr. **Pernet** said that in the case of a woman with keloid of the shoulder he injected thyosinamine, with the result that there was a great diminution of the condition. It also diminished the pruritis, which was a troublesome symptom.

The **President** said that good results were obtained from thiosinamine in scar-keloid, and cited the case of a scar on the face from a burn which had been much benefited by the treatment.

(2) A case of *extensive ringworm of the body and limbs* in a patient who was shown first at the Dermatological Society of London (*Brit. Journ. Derm.*, August, 1906). He then had ringworm extending from the neck over the whole trunk to the thighs and down the arms to the hands. The affected areas were scaly, and had a sharply marked margin. There was also an ulcer at the umbilicus, reniform, and with a much infiltrated border. On the dorsum of the right hand there was a flat button-like lesion, the size of a half-crown-

piece. The scalp has been free, but the left ear was attacked. The nails of all the fingers and thumbs were affected. The boy had had the trouble for years, and his sister, shown at the same time, was affected in a similar manner, but had no ulcerated or kerion-like lesions.

Scrapings from the lesions were examined by Mr. Twort in the Bacteriological Laboratory at the London Hospital, and the cultures grown had a crateriform character exactly like one variety of *Endothrix tricophyton*. Dr. Colcott Fox also had some of the material, and his culture is figured in the report in the *British Journal of Dermatology* referred to above.

The patients lived in very unhealthy surroundings, but although a tropical parasite was suspected, Dr. Sequeira has been unable to trace any connection between either patient and anyone who had been abroad. The fact that the patients had always lived in Limehouse renders this, however, probable.

The boy was in the London Hospital for twenty-three months, and during a large part of that time button-like lesions continued to appear on the abdomen and chest. They are all now healed, and no fungus has been obtainable since September, 1908. The nails, however, are still in a suspicious condition.

The treatment consisted of the application of iodine, of chrysarobin of various strengths, but the kerion-like lesions required injection with pure carbolic acid, and the umbilical ulceration only healed up after daily immersion in boracic baths repeated for several weeks.

The extraordinary resistance of the disease to treatment was commented on, and the peculiar button-like lesions so widely spread are unique in the exhibitor's experience.

The PRESIDENT said that if such patients were soaked in a boracic bath for twenty-four hours, or in a weak perchloride bath, benefit might be obtained.

Dr. GALLOWAY commented with admiration on the splendid perseverance displayed by Dr. Sequeira in the case, which was an exceptionally stubborn one.

Dr. SEQUEIRA, in reply, said the result was mainly due to the sister in his wards, who determined to get the patient well. He could find no record of a case of the kind in the literature.

Dr. WHITFIELD showed a man suffering from chronic enlargement of the lips due to *syphilitic lymphangitis*. The history showed that he had acquired syphilis fourteen and a half years previously. He was treated privately and had been severely salivated with mercury, since which time he had always tolerated the drug badly. About three and a half years after infection his mouth became very sore, but recovered completely. Then about six years ago he suffered from gummata on both legs with extensive ulceration, of which the scars were still evident. Two or three years ago his lips and his prepuce began to swell, the latter to such an extent that he had a large part of it removed, and yet there was still a certain amount of elephantiasis left.

He was first seen by Dr. Whitfield on February 25th, 1909, and then showed enormous stiffening and thickening of both lips, especially the lower, ulcers at the commissures of the lips, impetiginoid syphilide of the scalp and chronic superficial glossitis.

As he volunteered the fact that he bore mercury badly he was given ʒj doses of potassium iodide three times a day, and a little weak mercurial ointment for application to the ulcers. The following week it was found that the ulcers were still present, though, perhaps, less in size, and he stated that the iodide made him feel very ill. He was then injected with gr. iij of orsudan, and this had the effect of healing up all the sores on his head and the ulcers of his mouth, and making his lips much more pliable and comfortable, also giving him a feeling of good health. The injection had been twice repeated at intervals of one week with benefit each time, but it was less striking after the first injection.

Dr. Whitfield drew attention to the fact that on each occasion two days after the injection the patient suffered from some abdominal pain and diarrhœa lasting twenty-four hours. He therefore thought one must be very cautious as to the size and frequency of the dose used.

In reply to some questions as to whether he considered the enlargement to be truly syphilitic or the result of accompanying streptococcic infection, Dr. Whitfield said he held it to be genuinely syphilitic in origin. He pointed out that the chief brunt of the syphilitic infiltration and proliferation fell on the lymphatic system, and he thought that there was sufficient explanation of the elephantiasis to be found in this fact.

In discussing Dr. Whitfield's case the PRESIDENT invited expressions of opinion and experiences concerning the various *new arsenical preparations* now on the market, and their effects on skin-diseases. In many similar cases he found ½ drachm of liquor hydrarg. perchlor. and 20 ♏ ferri perchlor. together did very well. Atoxyl seemed to have fallen into disuse a good deal. In had been used in Lichen planus with success, and though there did not seem to be great enthusiasm in the meeting about it, it was worth a further trial. If for syphilis the new substances were good for the later stages mercury would always be retained for the early stages.

Dr. MacLeod said it was difficult to treat such cases successfully. There were two attending Charing Cross Hospital, and they had been doing so for two years. At one time they improved, as the present patient evidently did, but they salivated easily from taking mercury, and when that had once occurred one could not give much mercury without upsetting them. He had had no experience of atoxyl or soamin in the treatment of such cases.

Mr. Beddoes referred to the large doses of atoxyl which were being used for trypanosomiasis, and said that it was important to know what the dangers were, because it seemed to be the only drug which gave beneficial results in that disease. He also stated that large doses were used in the Lock Hospital and no bad effects were recorded.

Dr. Pernet said he had not used atoxyl very much, but in a few cases he had injected it into the muscles of the buttocks. He had not found patients complain of pain from it, but he could not say he had seen definite good results. He used the French atoxyl. Professor Neisser admitted at the Sheffield meeting that the German preparations were much more toxic than the French ones. It had been used for psoriasis, but he had not tried it for that disease.

Dr. Sequeira said he had taken three syphilitic cases into his wards for treatment with atoxyl, but he had not seen any benefit from the treatment. though he had given it a month's trial. He thought it would be cruel to persist in the face of that. He asked whether anyone had experience of injury to the optic nerve resulting from the injections, as it had been stated that there was danger of damaging the optic nerve by them.

Major French said he had tried the new arsenical preparations in early syphilis at Woolwich, but he did not think the results were as good as reported, as the men came back with very bad lesions. In the case of early primary syphilis he did not find that arsenic prevented secondaries coming out nor severe throat symptoms. He had given 10 gr. of soamin every second day. After giving ten injections into the buttock it was stopped. The patients said they felt better, but he thought the effect was merely temporary. He thought it would never take the place of mercury in early syphilis. He had not seen any bad effects in the cases which were injected.

Dr. Wilfrid Fox said he had used all forms of atoxyl, and the only one he had had trouble with was soamin. Atoxyl had been pushed so far as to cause definite toxæmia. In early syphilis it had no effect at all, but it had definite effects in a later stage of the disease.

Dr. Whitfield replied that colic and diarrhœa were common after its use in his patients, though not invariable. The present patient had been injected on Wednesdays, and he said that every Friday he had pains in his stomach, followed by diarrhœa, but he was better by Saturday morning. He believed Colonel Lambkin said relapses of early syphilis which had been treated by atoxyl were frequent and severe.

CURRENT LITERATURE.

EXPERIMENTAL REPRODUCTION OF CUTANEOUS TUBERCULIDES, HISTOLOGICALLY ATYPICAL NON-FOLLICULAR (*i. e.* WITHOUT "FOLLICLES" OR "TUBERCLES"); PAPULO-NECROTIC TUBERCULIDES; ERYTHEMA INDURATUM; ECZEMA SCROFULOSORUM. H. GOUGEROT and G. LAROCHE. (*Archives de Médecine Expérimentale et d'Anatomie Pathologique*, September 1908, No. 5, p. 581.)

GOUGEROT and Larouche claim to have succeeded in reproducing experimentally in guinea-pigs lesions which are clinically and histologically identical with several of the varieties of tuberculides that occur in human beings. and thus to have obtained, by a method which (they maintain) is less subject to error than those of guinea-pig inoculations and direct search for the bacillus in the lesions, the long-awaited proof of the bacillary nature of atypical tuberculoses. Their method was to rub into an epilated surface of healthy epidermis of a guinea-pig a virulent culture of tubercle bacillus, and, after a long incubation period of from three to four weeks, lesions identical with the papulo-necrotic tuberculide of Darier slowly evolved and passed through the stages characteristic of this eruption in the human subject. Other lesions of the type of tuberculides were also produced, but the papulo-necrotic were the most common, the proportions being as follows: Papulo-necrotic tuberculides and Lichen scrofulosorum, ninety-five times; Erythema induratum, three times; lesions reproducing the characters of Eczema scrofulosorum, of parapsoriasis or of Lupus erythematosus, twelve times. The papulo-necrotic lesions appeared after an incubation period of three to four weeks as small scale-topped nodules (two to twenty in number), which soon became umbilicated, then ulcerated, and finally, after twelve to fifteen weeks, cicatrised. Histologically these lesions were for the most part atypical tuberculoses, in that they did not show any arrangement of epithelial and giant cells to form "tubercles" as in typical tuberculous lesions. The histological appearances in several types of this papulo-necrotic lesion are described in detail and pictured in drawings from sections. The main features of all of them appear to consist in a central sub-epidermic area of complete structureless necrosis, with a narrow peripheral zone of cell proliferation, and a partial or complete necrosis or ulceration of the epidermis immediately over the necrotic area in the derma. In a few instances—that is, in the lesions which resembled those of Lichen scrofulosorum and those of Erythema induratum—there were outlying foci with giant cells. In all cases the neighbouring glands were enlarged. and in many of the animals there developed visceral tuberculosis. Experiments were also undertaken with attenuated bacilli and with dead bacilli on the epilated skin of tuberculous guinea-pigs, and similar "tuberculides" resulted. It is claimed that these experimental papulo-necrotic lesions are not only clinically and histologically identical with those of human tuberculides, but that they also resemble them in that the tubercle bacillus is not readily found by microscopical examination, and in that positive results with experimental inoculations are not constant—one in two in the case of artificial tuberculides. The authors conclude that these experiments found a new pathological theory—that tuberculides may be produced by inoculation of virulent but scanty bacilli through the healthy epidermis of non-tuberculous subjects, or by attenuated or dead bacilli through the epidermis of tuberculous individuals. They do not necessarily contradict the older theory of the production of tuberculides by inoculation of attenuated or dead bacilli by the arterial stream in tuberculous individuals. Gougerot and Laroche have from time to time submitted their facts and the conclusions drawn from them to Darier, who has confirmed them, and has said that, "ces tuberculides papulo-nécrotiques expérimentales ressemblent plus aux papulo-nécrotiques humaines que la peau du cobaye ne ressémble á la peau de l'homme." H. G. A.

VITILIGO: A NEW INSTRUMENT FOR ITS TREATMENT AND FOR THE REMOVAL OF DISFIGURING SCARS AND TATTOO-MARKS. HEIDINGSFELD. (*Derm. Centralblatt*, November, 1908, p. 34.)

SINCE 1898 the author has attempted to diminish the unsightliness of vitiligo by tattooing into the skin a mixture of inorganic pigments resembling the normal colour of the skin. His results were not always satisfactory as the pigment was not evenly distributed. To obviate this he has devised an instrument consisting of a group of 10–12 needles which are acted upon by the vibratory movement of a hammer from a small faradic coil at the opposite end. After trying many combinations of pigment, he now obtains the best results by the use of yellow Indian ochre, to which is added a little red ochre to bring it to the normal colour of the skin. These two pigments are mixed into a thin paste with a 20 per cent. solution of glycerine; the needles are dipped into this, and then gently pushed perpendicularly into the skin and the current started. In this manner the pigment is tattooed equally and quickly into the skin, as much as several square inches being covered in the space of ten minutes. It is necessary to repeat the process again until the right colour is reached. There is practically no pain caused, but if necessary cocaine can be previously injected. This instrument is of great use for the removal of white scars and tattoo marks; in the former case a pinkish-yellow pigment is introduced, and in the latter such a pigment as will as near as possible disguise the tattoo mark. D. F.

CONTRIBUTION TO OUR KNOWLEDGE OF THE MICRO-ORGANISMS OF THE SCALP. TIÈCHE. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 125.)

THE older researches of Unna and the more recent researches of Sabouraud have done much to extend our knowledge of the organisms found in seborrhœa, pityriasis and seborrhœic eczema, and much discussion has centred round the seborrhœic or acne bacilli, the Malassez or bottle bacilli, and the micrococcus or *Coccus polymorphus epidermidis*. The pathogenicity ascribed by Sabouraud to certain bacilli has, it is well known, been disputed by various observers, and recently by Jacquet and Darier among others. But investigation of all these researches leads one to the conclusion that the material examined is hardly sufficient on which to form definite conclusions. The difficulty of obtaining sufficient microscopical sections crops up of course everywhere, at any rate, when the living scalp is dealt with, so Tièche decided to undertake a research on the scalps of dead bodies at Bern as soon after death as possible. Portions of tissue were excised, hardened in alcohol and embedded in paraffin, stained in cresylecht-violett one to ten minutes, decolorised in 90 per cent. alcohol, and mounted in balsam. This method of staining is superior to the methods of Gram, Weigert, Sahli, Loeffler or polychrome methylene blue, inasmuch as the nuclei, keratohyalin, elacin and fungi are markedly differentiated. Scales from the surface of the scalp were stained in the same manner.

The result of this investigation was to prove the presence of the Malassez spores in forty-eight cases, *i. e.* 96 per cent. Chronic febrile diseases seem to afford an excellent ground for their growth, as will be seen from the following table. In 44 per cent. seborrhœic bacilli were present in numbers. They were present in 63 per cent. of chronic, and only in 25 per cent. of acute diseases. In about 20 per cent. of the cases abnormal forms of seborrhœic bacilli were present, especially deep in the follicles. In ten cachectic bodies hyphæ and spores were found which had considerable resemblance to *Microsporon furfur*. These were absent in those who had died of acute diseases. The typical "exoserosis" and "exocystosis," said by Sabouraud to be characteristic of pityriasis stéatoide, were absent in all the cases.

The following table shows the relationship of bacterial and fungus growth to soil, as demonstrated by this research:

Chronic Diseases leading to Cachexia.

No.	Disease.	Decade.	Seborrhœic bacilli.	Abnormal forms of growth of seborrhœic bacilli.	Malassezsche sporen.	Staphylococci.	Mycelium fungi.
1	Spondylitis . . .	6	+ + +	+	+ + +	—	—
2	Lungentuberkulose und Aktinomykose	4	+ + +	+	+ + +	—	+ + +
3	Urogenitaltuberkulose .	3	+ + +	—	+ + +	—	—
4	Lungentuberkulose . .	3	+	—	+ +	—	+
5	Lungentuberkulose . .	3	+	—	+ +	—	+
6	Spondylitis . . .	5	+	+	+	—	—
7	Lebercirrhose . . .	5	+ +	—	+	—	+ + +
8	Lupus eryth. acutus .	4	+	+	+	+	—
9	Hirntumor . . .	5	+	—	+ + +	—	+
10	Chronic pneumonia . .	4	—	—	+	—	+ + +
11	Magencarcinom . .	6	—	—	+ + +	+	—
12	Blasencarcinom . .	8	+	—	+ + +	—	—
13	Knochentuberkulose .	6	+	—	+ + +	+	—
14	Lungentuberkulose . .	4	+	—	+ + +	—	—
15	Knochentuberkulose .	2	+	—	+ +	+	—
16	Darmtuberkulose . .	4	—	—	+ +	—	+ +
17	Pseudoleukämie . .	4	—	—	+	—	+
18	Lungentuberkulose . .	4	—	—	+	—	—
19	Lungentuberkulose . .	4	+	—	+ + +	+	—
20	Lungentuberkulose . .	3	—	—	+ +	—	—
21	Tabes und Aorten-aneurysma	4	+	—	+	—	—
22	Rektumcarcinom . .	6	+	—	+ + +	+	—
23	Tuberkulose . . .	3	—	—	+ +	—	—
24	Pneumonia, tuberculous .	5	—	—	+ + +	+	+ +
25	{ Chronische stauung { Vit. cordis	4	+	—	—	—	—
26	Tuberkulose . . .	4	—	—	+	+	—
27	Tuberkulose . . .	3	—	—	+ +	+	—
28	Lupus eryth. acutus .	2	—	—	—	—	—
29	Tuberkulose . . .	3	+	—	+ + +	+	+
30	Multiple Sklerose . .	4	+ +	+	+ + +	—	—

Acute Diseases.

No.	Disease.	Decade.	Seborrhœic bacilli.	Abnormal forms of growth of seborrhœic bacilli.	Malassezsche sporen.	Staphylococci.	Mycelium fungi.
1	Tetanus	5	—	—	+ +	—	—
2	Typhus	4	—	—	+	—	—
3	Nephritis acuta	5	—	—	+	—	—
4	Pneumonia	9	—	—	+	—	—
5	Basisfraktur	3	—	—	+	—	—
6	Pneumonia (arthritis deformans)	8	—	—	+ + +	+	—
7	Schädelfrakturen	4	+ +	+	+	+	—
8	Multiple frakturen	3	—	—	+	—	—
9	Volvulus	3	+	—	+ +	—	—
10	Gehirnembolie	7	+	—	+	—	—
11	Emphysem	6	—	—	+	—	—
12	Lungenembolie	5	+	—	+	—	—
13	Kropftod	3	—	—	+	—	—
14	Herzhypertrophie	5	—	—	+	—	—
15	Pneumonia	4	+	—	+	—	—
16	Lungenembolie	8	—	—	+	—	—
17	Pneumonia	7	—	—	+	—	—
18	Peritonitis	4	—	—	+	—	—
19	Tumor mediastini	3	—	—	+	—	—
20	Akute urämie	5	—	—	+	—	—

J. L. B.

CONTRIBUTION TO THE STUDY OF SO-CALLED GRANULOMA ANNULARE. G. B. DALLA FAVERA. (*Derm. Zeitschr.*, xvi, Heft. 2.)

THIS is an interesting paper on a case of this rare disease fully described from a clinical and histological standpoint. Most of the cases of this disease previously recorded have been observed in this country, and the literature of the subject is peculiarly English. This appears to be the first case recorded in Italy. From the description, the photograph and the sections, it is plain that it is a genuine case. The appearances are very similar to those in the cases recently shown at the Dermatological Section of the Royal Society of Medicine.

The patient was a healthy male, aged 38 years. Two days after being drenched by rain he was attacked by pains in his joints with periarticular swelling, unaccompanied by fever. Both the pains and the swelling were much worse by day than by night. After a month he recovered from this, but within fourteen days from the cessation of the joint-pains the skin-affection appeared. Both extremities were affected, but on the legs the eruption was limited to the neighbourhood of the malleoli. At the same time a purpuric rash appeared on the calves. At the end of three months the eruption had disappeared, leaving only pigmented spots. On the hands the eruption was more severe, and persisted there alone when the patient came under the care of Dr. Favera. The lesions were found on the backs of both hands, on the wrists, and on the phalangeal joints, except on the thumb and ring finger of each hand. They consisted of almond-shaped infiltrated plaques with the long axis parallel to that of the limb, and were marked off exceedingly sharply from the surrounding healthy skin. They were elevated about 2 mm. above the level of their environment. Their surface was smooth and regular, but the natural lines of the skin were more deeply marked than normally. Each plaque was quite movable on the deeper structures, but the suppleness of the skin was much affected. The infiltration was limited to the corium. Apart from his skin-affection the patient enjoyed good health, and no other sign of disease could be detected. Ten months after the above description was written the lesions were still present, but were slowly fading; the patient was well, but had had meanwhile another attack of rheumatism.

Histological appearances.—The stratum corneum shows some thickening, with a moderate amount of hyperplasia in the stratum of Malpighi, but these strata are not very much altered from the normal. In the corium, however, there is a massive cell infiltration especially well-marked in the middle of the pars reticularis. It is this infiltration which causes the elevation of the lesion. On closer examination the infiltration is seen to be not uniform, but to consist of strands which anastomose with one another in different directions, and these directions correspond with those of the smaller blood-vessels. Under the high power the endothelial cells of the blood-vessels are seen to be swollen, proliferated, and sometimes lying free within the lumen of the vessel. Some of the capillaries are even obliterated. Elements are also present similar in character to the mononuclear leucocytes of the blood. Whether these are of histogenous or hæmatogenous origin is doubtful.

This clinical and pathological picture agrees very fairly with the description given by Dr. Graham Little recently in this Journal, and which has received the now generally accepted name of Granuloma annulare. The chief difference between the view of Dr. Favera and that of Dr. Graham Little is that Dr. Favera regards the blood-vessels as the sole centres of infiltration, while Dr. Little finds that infiltration also centres round certain glands. Dr. Favera thinks that the alteration of the endothelial lining of the blood-vessels is the primary pathological change. Another important clinical feature of Dr. Favera's case is that the circinate nature of the lesion is not well marked as is usually the case. Dr. Favera thinks that the circinate appearance is due to the central retrogression of the infiltration.

As regards the relation of the condition to others, Dr. Favera is of opinion that it is most nearly allied to Erythema nodosum. He points out that the distribution is similar, viz., limited to the extremities, and that it is frequently accompanied by rheumatic manifestations; in his own case this feature was very conspicuous. To the contention advanced by some that it is allied to the tuberculides he objects on the grounds that in the first place the histological appearances do not lend any support to this view, and in the second that out of forty-nine cases analysed by Dr. Graham Little in only four could any hereditary tendency to tuberculosis be discovered, and in only one could a tuberculous lesion be found. There remains still another possible classification for the Granuloma annulare, viz. with the sarcoid tumours of Boeck. This Dr. Favera also rejects on account of the absence of epithelioid cells and giant cells, both of which have been considered typical of sarcoids.

H. D.

STRIÆ LONGITUDINALES MEDIANÆ UNGUIUM SYPHILITICÆ. JULIUS HELLER. (*Derm. Zeitschr.*, xvi, Heft. 1.)

THE author, who has given particular attention to diseases of the nails for the last fourteen years, has only seen for the first time within the last few months a case of longitudinal striation of the nails arising during syphilis, but he has since observed another and now publishes the two cases. Both of them occurred in educated individuals, and it is quite certain that the striations did not exist before the syphilis was contracted.

The paper is illustrated by a photograph. H. D.

THE LOCAL ALTERATIONS AFTER THE INJECTION OF INSOLUBLE MERCURY COMPOUNDS, ESPECIALLY "GREY OIL." TH. DOHI. (*Derm. Zeitschr.*, xvi, Heft. 1.)

TAKING advantage of the death of a syphilitic patient during a course of mercurial injections, which apparently brought on a fatal enteritis, Dr. Dohi has been able to study the phenomena which take place at the site of introduction of metallic mercury. He has also made experimental inoculations of grey oil and other mercurial preparations into rabbits and dogs, and studied the local appearances found at intervals of varying length after the injection. In every case inflammatory changes of some degree take place, which result in the formation of little shells of fibrous tissue, in the middle of which globules of the preparation injected are found. After a time these disappear, but after the injection of grey oil the absorption is slower than after that of calomel or other preparations. In fact little collections of metallic mercury can be found as long as eleven weeks after the inoculation. He draws the following conclusions:

(1) That grey oil is absorbed more slowly than other mercurial preparations

(2) That it has less inflammatory effect on the tissues than calomel.

(3) That, when using grey oil in order to prevent the formation of dangerous accumulations of mercury, with the risk of their sudden liberation and consequent toxic effects, a longer interval must be allowed between successive doses, and a longer pause at the end of each series of injections than when using other preparations.

A number of references are given to other papers on the same subject, which will be found useful.

H. D.

DEMONSTRATION OF THE SPIROCHÆTA PALLIDA IN THE DENTAL GERMS OF A CONGENITAL SYPHILITIC. A. PASINI. (*Giorn. Ital. d. Mal. Ven. e della Pelle*, 1908.)

FOR many years alterations in the teeth known as dental stigmata have been recognised as occurring in congenital syphilis. They consist in variations in size, form, colour, disposition and direction. The usually accepted theory of the origin of these stigmata is that of Fournier, who ascribed them to the partial atrophy of the dental germ due to malnutrition caused by a general disease. Nevertheless, up to the present time it has never been certain whether this is so or if they are due to the direct action of a virus acting locally. No appearance of alveolo-dental periostitis, or cell-infiltration, or pathological change in the blood-vessels has ever been demonstrated in the tooth-germs of congenital syphilitics.

The author of this paper, however, in May, 1908, saw a woman in the secondary stage of syphilis, four months pregnant. The clinical appearances were undoubtedly syphilitic, and the diagnosis was confirmed by the serum reaction. In August she was delivered of a dead fœtus which presented macroscopical appearances typical of syphilis. A piece of the left superior maxilla was excised and fixed in formalin. The papillæ of the incisor and canine teeth were examined histologically in the ordinary way, and also portions were impregnated with silver for the presence of spirochætes. The papillæ were found to be of very irregular conical shape, and the odontoblasts badly developed and atypically arranged. The silver preparations showed the presence of the *Spirochætæ pallidæ*, only in scanty numbers near the base of the papillæ, but in greater numbers towards the apex just beneath the layer of odontoblasts. This therefore shows that if the *Spirochæta pallida* is really the pathogenic agent in syphilis, as is to-day generally believed, the dental stigmata of congenital syphilis are not to be considered as the products of a trophic alteration secondary to a general infection, but as due to an immediate local action of the same agent acting with its full virulence.

H. D.

REVIEWS.

PHYSICAL THERAPEUTICS OF DISEASE OF THE SKIN.—PHYSICAL THERAPEUTICS OF VENEREAL DISEASES.*

DURING the last few years the methods of treatment of skin-diseases have undergone much amplification and improvement. The various methods of light treatment which are now so extensively employed were but little known ten years ago, and even at the present moment we are but dimly acquainted with all their possibilities. Other methods, as, for example, treatment by artificial hyperæmia, promise to be of the greatest service in the future in the treatment of skin-diseases. The conception of syphilitic affections has had to be modified since the demonstration of the spirochæte and the improvement of sero-diagnostic methods. In this book the various physical methods adapted to the treatment of cutaneous and venereal diseases have been described in detail with due regard to modern scientific views, and under the heading of the different diseases those methods of treatment have been dealt with which are specially suitable to modify the underlying pathological changes, and, when possible, cure the disease. The author has relied not only upon the literature, which he has evidently studied with care, but also upon his personal experience, the results of which he lays before us in an attractive manner. To take an example at random, he states that he has treated fifty-six cases of Alopecia areata with Röntgen rays, and in sixteen he has had evident, that is, relatively, rapid success. In eleven of the remaining cases re-growth of hair took place on the areas which had been exposed to the rays, but either with no greater rapidity and in no greater amount than on those bald portions of the scalp which had not been treated by the rays, or so late that no beneficial effect could be ascribed to them. Small doses of the rays were employed, sufficient only to cause the hair to fall out round the edges of the patches so treated. In only exceptional cases was the whole scalp epilated, and three cases of universal alopecia which were treated by X-rays reacted neither to them nor to any other form of treatment. Results such as these are interesting, if not very successful, but what are we to say to the employment of the Finsen lamp, quartz lamp, or uviol light for such a trivial disease as Tinea versicolor, a disease which can be cured by the simplest methods? To say that such light-treatment produces hyperæmia of the skin and alters the nutrition and sweat production of the skin is true enough, but these are hardly reasons sufficient for recommending such treatment for erythrasma and Tinea versicolor until other methods have at least been given a trial. This may, however, be only misguided enthusiasm, and for those diseases where Finsen, uviol, quartz or other light-treatment is really suitable, an excellent description of their method of employment is given. The Kromayer lamp is mentioned and a modification of it, the Küch-Kromayer is described both by letterpress and several diagrams. The lamp is made of mountain crystal which is cut to form an arc-shaped tube 1 cm. wide and 10 cm. long, and is cooled by a stream of water, which is not allowed to come in contact with the light tube or affect the temperature of the mercury vapour. The water can be coloured by aniline dyes, so as to cut out the heat rays and leave a cold blue light.

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* *Physical Therapeutics of Diseases of the Skin*, pp. 198, with 57 Illustrations. Price 4 marks 60. *Physical Therapeutics of Venereal Diseases*, pp. 217, with 61 Illustrations. Price 5 marks. By K. ULLMANN. Stuttgart: Ferdinand Enke. 1908.

Superficial action on areas of skin of a considerable size can be obtained by placing the lamp at a greater distance than 10 cm. from the skin and giving an exposure of five to fifteen minutes. If smaller areas are to be treated the lamp must not be brought nearer, but healthy skin must be protected from the rays by Stanniol paper gummed on. Deep action—at least as deep as that of Finsen light—can be obtained by bringing the window of the lamp directly in contact with the skin so that it is simultaneously compressed and cooled. Exposures up to three-quarters of an hour can then be given if the lamp is held firmly in position by some mechanical arrangement. It is claimed that when thus applied equally successful results to those of Finsen light can be got in one third or one fifth of the time, and with much less expense and less discomfort to the patient and the physician. Other forms of light treatment are described in similar detail, and in many cases diagrams of apparatus are given.

The volume dealing with genito-urinary diseases and their physical treatment is of less interest to the dermatologist, but, if he cares, he may read about such unusual methods as the treatment of prostatic hypertrophy by electrolysis and X-rays, or study the arguments in favour of the abortive treatment of gonorrhœa. This volume also contains a number of diagrams. The chapters on the physical treatment of syphilis are comprehensive, and constitute a useful review of the subject.

J. L. B.

LES MALADIES DE LA PEAU.*

THE fourteenth fasciculus of the *Nouveau Traité de Médicine et de Thérapeutique,* edited by Professors Gilbert and Thoinot, of Paris, is devoted to diseases of the skin. It is a large volume of 500 pages with 180 illustrations. The author, Professor Gaucher, points out that the first edition of this work was written in collaboration with the late Dr. Barbe, whose notes on botryomycosis, caratés, and epilation by the X-rays have been used for the present edition. The aim of the work is to supply a "précis," concise and practical, of a difficult subject, answering to what we should call a manual. It may be said at the outset that Professor Gaucher has carried out this idea with success, as was to be expected from a master in the subject, and one, moreover, with personal ideas on many of the diseases dealt with. In order to bring the book up to date, Professor Gaucher has had the valuable assistance of well-known contributors in some of the special subjects: M. Monier-Vinard is responsible for the section on sporotrichosis; M. Rubens-Duval for blastomycosis; MM. Wickham and Degrais for the treatment of vascular nævi by radium; M. Gastou for the treatment of nævi by the X-rays; M. Dominici for the histology of Mycosis fungoides, and also for the treatment of rodent ulcer and cutaneous epitheliomata by radium; and M. Zimmern has revised the whole of the radiotherapy.

The volume can be strongly recommended to readers desirous of knowing the ideas and methods of treatment of the French School of Dermatology, the matter being well arranged and in a form both concise and clear. At the present moment the parts of the book dealing with the applications of radium will be found of special value, illustrated, as they are, by a number of reproductions from photographs. The publishers have done their work well, and by illustrating the present edition from Professor Gaucher's collection, St. Louis Hospital models, etc., they have made the book more valuable for reference by the general medical reader. We have no doubt Professor Gaucher's *Maladies de la Peau* will be well received, and that a new edition will soon be called for.

G. P.

PRÉCIS DE DERMATOLOGIE.†

THIS is a compact octavo volume of 700 pages, representing the ripe experience of twenty years' practice of one of the most distinguished of the band of dermatologists who have made the French school of to-day probably the leading school of Europe. As was to be expected from the reputation of the author, the histological features of each disease are especially well described, but the general anatomy and physiology of the skin are omitted, the reader being referred to the magistral essay on that subject contributed by the author to *La Pratique Dermatologie.* A novel and interesting classification is adopted, diseases of the skin being divided into: (1) Eruptive dermatoses, which are considered under the headings of the elementary lesions which constitute the eruption; (2) Non-eruptive dermatoses or morbid states, *e. g.* hypertrophies, atrophies, disorders of the hair, nails, colouration, etc. To the first class 430 pages are devoted under the heading of "Morphology," the rest of the book being occupied with "Nosology," which includes the infective granulomata and tumours, the latter being especially fully dealt with. The book teems with interesting original views. The clinical group of seborrhoic eczema of Unna Darier regards as having been already dismembered, and from the fragments he constructs a new class, "Eczematodes," to include all the dry, scaly forms now called seborrhoic eczema, seborrhoids, dry eczema, as an underlying factor of which he describes a "cutaneous dystrophy," which he proposes to name "kerosis." The *rôle* of micro-organisms in this disease in the production of the lesions of the skin is that of a local infection added to the congenital condition, the nature of the infection being undecided as yet and possibly diverse. In the consideration of bullous dermatoses the author has done a service in simplifying the classification, and in including Dermatitis herpetiformis of Duhring, as well as Epidermolysis bullosa, as clinical groups in the class of pemphigus. A new class of "folliculoses"—"morbid processes affecting the pilo-sebaceous follicles"—includes such diverse diseases as acne, pityriasis rubra pilaris and pseudo-pelade, whose common feature is the involvement of the follicle. The author's modesty does not allow of his giving to the disease, which he calls "Psorospermose folliculaire végétante," the name by which it is much more widely known—"Darier's disease." The affections of the hair are grouped under the convenient general name "trichoses." Alopecia areata is accepted as definitely non-parasitic, a view which Jacquet's work has imposed as the dominant opinion of the French school. Lupus erythematosus is regarded by the author as a "tuberculide," and classed with the bacillary diseases of the skin. Adequate consideration is given to the new class of "sporotrichoses," which is stated to be "the most frequent of dermatomycoses." A particularly excellent description of tumours of the skin —on the same lines as the author's well-known and valued article on this subject in *La Pratique Dermatologique*—closes the second part.

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* *Les Maladies de la Peau.* By E. GAUCHER, Professor de Clinique des Maladies Cutanées et Syphilitiques à la Faculté de Médecine de Paris.

† *Précis de Dermatologie.* By J. DARIER. Masson, 1909.

In an appendix occupying twenty-five pages the therapeutics of skin-disease are most usefully and philosophically discussed. The volume may be heartily recommended, and the authority of its authorship, its handy size, clear style, and very numerous photographic illustrations make it an ideal text-book for students and practitioners.

E. G. L.

THE BRITISH
JOURNAL OF DERMATOLOGY.

MAY, 1909.

PEMPHIGUS FOLIACEUS.*

By R. CRANSTON LOW, M.B., F.R.C.P.Edin.,
Assistant Physician to the Skin-Department, Royal Infirmary, Edinburgh.

(*Continued from page* 116.)

Case 1 corresponds exactly to the classical description of Pemphigus foliaceus, beginning as a bullous eruption, which lasted for some time as such, and then took on the exfoliating character, the eruption becoming generalised and not a square inch of the body being unaffected. Although blebs still continue to appear on the limbs, the general surface of the skin is red and raw looking and the epidermis is peeling off in the characteristic large leafy flakes. At first the skin was so soft that the slightest pressure removed it completely, leaving a raw surface below. Nikolski (41) considers this pathognomonic of Pemphigus foliaceus. It rendered the patient very difficult to handle, as the raw surfaces were somewhat painful to touch. The peculiar sickly odour is extremely disagreeable and penetrating, and once smelt is not easily forgotten. The irregular temperature with a nightly rise and a daily remission is also another feature which is usual in such cases. Another characteristic is the wonderfully slight change in her general condition. When the patient was first seen it looked as if she could not live very long, but, as has been pointed out by several who have recorded cases, the general nutrition is maintained much better than one would expect, even after the disease has lasted months or even years.

Case 2 also has a long history, dating back over eleven years. At first the condition was like Dermatitis herpetiformis and at that time she was under the care of Dr. Allan Jamieson, but later the appearance changed altogether and it took on all the characteristics of Pemphigus foliaceus. Exactly similar cases beginning as Dermatitis herpetiformis and later developing into a condition indistinguishable from Pemphigus foliaceus have been recorded by Biddle (4), Brocq (5), Hallopeau and Fournier (16), Hallopeau and Jousset (17), Mrâcek (38), Besnier (2), and Klotz (30). Hallopeau and Fournier (16) had three cases which were all very similar, and from a study of these three cases they came to the following conclusions: (1) Pemphigus foliaceus may present in its clinical characters great analogy with Dermatitis herpetiformis, and like Dermatitis herpetiformis it may show polymorphic eruptions, which occur in successive crops and are itchy; (2) it is distinguished by an oozing, exfoliating erythrodermia, which is general and persistent. There is a distribution of evanescent blebs in a concentric and serpiginous manner, general loss of nutrition, and almost constant fatal termination.

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* From the Skin-Department of the Royal Infirmary, Edinburgh.

Brocq (5), on the other hand, looks upon such cases differently. He considers all cases which begin as typical Dermatitis herpetiformis as Dermatitis herpetiformis all through, even although in the later stages they look like Pemphigus foliaceus. He describes it as "l'herpétide maligne exfoliante," which ends fatally. He looks upon it simply as the generalised stage of Dermatitis herpetiformis. For Brocq's position there is certainly a good deal to be said. Why should one go out of one's way to change the name of a disease simply because the lesions become more severe, more generalised, and end fatally? But, on the other hand, the later stages of such cases are identical with Pemphigus foliaceus, and clinically absolutely indistinguishable. There are other diseases also which show some analogy, *e.g.* psoriasis not infrequently develops into a general exfoliative dermatitis. Yet all are agreed that these are two different diseases. Similarly, why should not a patient suffering from Dermatitis herpetiformis become the subject of Pemphigus foliaceus? Hallopeau and Jousset, from a study of their case, conclude that "Pemphigus foliaceus may develop secondarily to a Dermatitis herpetiformis, from which it is a transformation. This transformation may be attributed to a change in the reaction of the patient to the disease, or to a change in the quantity or quality of the pathogenic toxins producing it."

Besnier did not commit himself as to whether such cases are exfoliating forms of Duhring's disease, or cases of Pemphigus foliaceus originally mistaken for Dermatitis herpetiformis. Mrâcek's case was a doubtful one, which began like Dermatitis herpetiformis. but later developed into a condition which Neumann, Hebra, and Lang, who saw the case, thought was not a Pemphigus foliaceus, but an abnormally inflamed psoriasis.

Case 2 has also another feature of interest. It began like a Dermatitis herpetiformis, later developed into a condition of Pemphigus foliaceus, and more recently still, when it showed improvement, it reverted to the Dermatitis herpetiformis type. Latterly the condition resembled Duhring's disease much more than Pemphigus foliaceus, with the exception of the condition of the face. Here, again, the analogy between what has just been described and what occurs in psoriasis and general exfoliative dermatitis is seen. Cases of general exfoliative dermatitis, which have developed subsequent to psoriasis, as they get better revert to the psoriasis again. Certainly there is a very close connection between Dermatitis herpetiformis and Pemphigus foliaceus, and possibly the cause of both diseases is the same, only differing in degree.

The classification of Pemphigus foliaceus cases is a difficult one, Brocq (6) divides the recently published cases into three groups.

(1) True Pemphigus foliaceus (Quinquaud's type) where there is moderate itching; blebs are present at first, which are either flaccid or tense. The blebs soon disappear and the whole skin becomes red: desquamation is at first in large scales, later furfuraceous, and later still a general "papillomatose" is seen. (This term "papillomatose" will be discussed later.) The general condition of the patient remains good for years.

(2) Cases with moderate itching, in which blebs only are present at first, but the eruption soon becomes mixed, showing blebs, scales, moist areas and crusts. The eruption gradually becomes generalised, but even to the end there is a mixture of blebs and exfoliation. There is very slight "papillomatose," and the general condition of the patient is good for years. To this class Case 1 belongs.

(3) Cases with extreme itching, in which erythema, vesicles and blebs are present, and, as in Dermatitis herpetiformis, the eruption comes out in crops. Later on exfoliation occurs, but always associated

with blebs, crusts, etc., in addition. There is little or no papillomatose and the general state becomes rapidly worse, and death occurs in from one to two years. With the exception of the presence of marked papillomatose and a good general condition, Case 2 belongs to this group.

Pemphigus foliaceus is therefore to be regarded as a disease which may commence in a variety of ways, but usually beginning as a Pemphigus chronicus or a Dermatitis herpetiformis.

The bullous element in the eruption may disappear and be replaced by a general exfoliation alone, or the formation of blebs and exfoliation may coexist. The amount of exfoliation may vary very much. Hallopeau and Bouchot (20) report a case where the scales and crusts remained adherent to the skin as large masses, so that the skin was thickened and rough like the bark of a tree.

Although in the two cases here recorded no definite lesions were found on the mucous membranes, there have been several cases where they were the seat of lesions. Regensberger (46) and Cuthbert (9) record lesions in the mouth and conjunctiva. Wiedenfeld (52) reports lesions on the conjunctiva also, but it is doubtful whether these were not trophic in character, as the nerve supply to the conjunctiva in his case was not intact.

Kaposi (29) and Fabry (10) describe ectropion of the eyelids, the latter explaining it as due to a chronic œdema of the parts. One of Hallopeau and Fournier's cases had ulceration of the cornea and staphyloma.

Biddle's case had lesions in the rectum. Several of the recorded cases also suffered from diarrhœa from time to time, and especially just previous to a fatal termination, but whether that was due to the general condition or to some local lesion in the intestine was not ascertained in any of the cases.

Itching has been very variable in the cases. Hallopeau and Fournier say that intense itching, even although the eruption has some resemblance to Dermatitis herpetiformis, is not against a diagnosis of Pemphigus foliaceus. Most of the cases were somewhat itchy at first, but after the disease was fully developed the itching has never been a marked feature.

Both sexes are affected by the disease.

The age-incidence varies. The majority of cases have occurred in early adult life, but some have been in old persons, and a few in children. Cases of Pemphigus foliaceus have been recorded in the new-born, but these, from a study of the reports of them, were probably marked cases of Pemphigus neonatorum.

Nikolski's sign, *i. e.* the stripping off of the superficial layers of the skin by pressure, is emphasised by Landstroem as of great diagnostic importance. The exfoliation takes place usually between the stratum lucidum and the stratum granulosum. It illustrates the close connection which exists between Pemphigus chronicus and Pemphigus foliaceus, because, as is well known, in the former disease one is frequently able to push the blebs along under the horny layer from one place to another. The layers of the skin are so loosely adherent in Pemphigus foliaceus that exfoliation is inevitable if the slightest pressure be applied.

The diagnosis of Pemphigus foliaceus in well-marked cases usually is not difficult. It is one of the few skin-diseases which is universal. It has to be distinguished from general exfoliative dermatitis (Pityriasis rubra), bad cases of Pemphigus chronicus, Dermatitis herpetiformis and generalised eczema.

General exfoliative dermatitis is the disease which resembles it most. Both diseases show a general redness of the skin with exfoliation, but in Pemphigus foliaceus there is a tendency to the formation of moist and oozing areas, whereas in exfoliative dermatitis the skin is perfectly dry all over. Nikolski's sign is absent in exfoliative dermatitis. The odour of the patient is also of assistance, exfoliative dermatitis never having the disagreeable odour of Pemphigus foliaceus. Hardaway and Morrow both describe cases as mixed forms of exfoliative dermatitis and Pemphigus foliaceus. Regensberger also reports a case of Pemphigus foliaceus, which in some ways was very like exfoliative dermatitis. Allan Jamieson (26) describes Pemphigus foliaceus as a condition which has the appearance as if a general exfoliative dermatitis had been planted on the top of a Pemphigus. Fabry's case, which began like a Pityriasis rosea or a seborrhœic eczema, showed distinct blebs for six or eight weeks, but latterly was perfectly dry and scaly, and indistinguishable from general exfoliative dermatitis.

The question of the relation of Pemphigus foliaceus to Dermatitis herpetiformis has already been discussed. The same difficulties arise in the diagnosis from Pemphigus chronicus, in which large areas are affected. Here also it is doubtful whether such cases are to be regarded as bad cases of Pemphigus chronicus or cases of Pemphigus foliaceus mistaken at first for Pemphigus chronicus. The latter view seems to me to be the most likely one, because, however the disease begins, the final stage of exfoliation is always very constant and characteristic. Fabry states that Pemphigus foliaceus may be the precursor of Pemphigus vegetans, and may go on to that disease. At any rate, it is undoubted that there is a very close connection between Pemphigus foliaceus and all the other forms of pemphigus, including Dermatitis herpetiformis.

As a rule the diagnosis from a widespread eczema is easy. In eczema the eruption is never universal. The character of the actual lesions and the absence of blebs and Nikolski's sign also serve to distinguish them.

The term "papillomatose" is the name given by Quinquand (45) in 1892 to the wrinkled thickening of the skin which his case exhibited. He records it as a case of "Pemphigus foliacé avec papillomatose généralisée." This peculiar condition began on the lips and then affected the skin, which became granular looking, with an exaggeration of the natural folds. It affected all the body, but was most marked on the shoulders, back, buttocks, neck, fingers and toes. The papillomatosis only began after the case had been in the exfoliating stage for a long time.

Besnier (2) also reports a similar condition in one of his cases, which he describes as a "Dermatite exfoliante et bulleuse avec papillomatose secondaire." In his case also the change was a late one, and affected chiefly the uncovered parts. His case also had a simultaneous hyperkeratosis of the palms and soles. In Quinquaud's case the patient had been treated by arsenic internally; Besnier does not say whether his case had arsenic or not, but he suggested when he saw Quinquaud's case that it might be due to the arsenic which had been given, as he had seen a similar condition in a Dermatitis herpetiformis treated by arsenic.

Senelew (49) describes a thickening of the skin of the feet and legs in his case of Pemphigus foliaceus. The legs especially were covered with thick crusts and scales, as in a marked ichthyosis. Microscopically he found a marked hyperkeratosis, and considers that there is an analogy between the microscopic changes in Ichthyosis histrix bullosa and Pemphigus foliaceus. This seems to have been a more exaggerated form of the same condition as Quinquand and Besnier describe.

All our three cases showed this papillomatose condition quite markedly. I think the name used by Quinquand and Besnier is rather an unfortunate one. It is not a papillomatous condition at all. The term "papillomatose" suggests a condition rather such as is seen in Pemphigus vegetans, but from a study of these three cases it seems to be only a thickening of the horny layer, and a much more suitable name would be "keratosis." I am inclined to consider, like Besnier, that it is entirely due to the arsenic, which was given internally in all three cases.

The microscopic findings of the skin in Pemphigus foliaceus have been fairly uniform. Unna (51), Nikolski, Fabry, Senelew and Leredde (34) have all examined cases histologically, and the lesions found are very much what one would expect. In the corium there is great dilatation of all the blood-vessels, and according to Unna the dilatation is most marked in the subpapillary plexus, extending deeper than the clinical appearances suggest. The lymph-spaces and vessels are also fully dilated in the papillæ and deeper parts of the corium. The dilatation of the lymph spaces is less than the dilatation of the lymph-vessels (the opposite is the case in Erythema bullosum), owing to the swelling of the surrounding connective tissue. The connective tissue is œdematous and swollen, and may show hyaline and colloid degenerations (Unna). Fabry and Senelew report a marked diminution in the elastic tissue in the deeper parts, and total absence in the more superficial parts of the corium. Nasarow, on the other hand, found the elastic tissue increased. There is a cellular infiltration in the superficial parts of the corium and around the sweat glands. The cellular exudate consists of plasma-cells, lymphocytes, polymorphonuclear leucocytes and a few eosinophile leucocytes. According to Leredde and Fabry there are pigment-cells and free pigment, and in the deeper parts mast-cells. Leredde also says that the majority of the leucocytes in the dilated vessels of the papillæ are eosinophiles. The sweat-glands are atrophied and the sebaceous glands may show cystic degeneration (Senelew). The fat undergoes a colloid change and disappears (Unna).

The Malpighian layer shows an elongation of the interpapillary projections and a thinning of the supra-papillary layers of cells, so that the altered horny layer is close to the tips of the œdematous papillæ. The cells of the rete Malpighii are swollen and œdematous and lose their prickles, and there are often spaces between the cells and occasionally actual vesicles. Mitosis is well marked in the palisade layer. The lesions on the stratum corneum and granulosum are very variable according to the area examined. The horny layer is very often absent. The level at which exfoliation takes place is given most frequently as just below the stratum corneum, but some give it as deeper in the rete Malpighii or between the rete and the corium. Where the horny layer is present there is parakeratosis with œdema of the cells. There are leucocytes wandering between the cells of the epithelial layers, and Leredde found the majority of such cells eosinophile.

The microscopic changes, therefore, are those of an inflammatory nature with rapid exfoliation of the surface layers, without, as a rule, the formation of definite blebs. Whether the exfoliation is to be looked upon as the primary condition, and the inflammatory condition of the corium secondary to that or whether the changes in the epithelial layers are secondary to those in the corium has not yet been determined. Leredde looks upon the skin changes as secondary to those of the blood, and Fabry considers the real pathological lesions as, not the bleb, but the great development of a granuloma in the cutis, with secondary parakeratosis and secondary congestion of the circulation and secretory apparatus of the skin.

Unfortunately an examination of the blood in Pemphigus foliaceus has only been made in a few cases, and with very contradictory results. The appended table is made from all the cases up to date in which the blood has been examined.

As is seen from the table the red blood-corpuscles are usually normal or somewhat diminished in number, but never to a great degree. No mention has been made of any alteration in shape or size. The hæmoglobin is also slightly diminished as a rule. The total white blood-corpuscles varies, in some cases being below normal, in others slightly above. The count in Kanitz's (27) case cannot be regarded as of any value, as the patient was moribund at the time the blood was examined. The proportion of the different leucocytes varies

Case.	Red blood-corpuscles.	White blood-corpuscles.	Hæmoglobin.	Polymorphs.	Mononucleated leucocytes.		Eosinophiles.	Mast-cells.	Remarks.
					Lymphocytes.	Large mononuclears.			
Nikolski	Diminished	Slightly increased	Diminished	—	—		—	—	Methæmoglobin found.
Grinew	4,319,000	7700	67·8 %	78 %	14·7%	7 %	0·5 %	0·34 %	Sp. gr. 1045.
Senelew	Diminished	Slightly increased	Diminished	Slightly increased	Slightly increased		Diminished	—	—
Pellegatti	—	—	—	—	36 %		1 %	—	—
Brousse and Bruc	—	—	—	69·5 %	18 %		12·5 %	—	—
Meynet and Ribollet	3,500,000	6200	—	40 %	45 %		15 %	—	Three examinations made in Sept., 1902, Dec., 1902, and Feb., 1903. All from the same patient.
				50 %	14 %	26 %	10 %		
				80 %	2 %	6 %	4 %		
Kanitz	—	800	—	—	Almost entirely large mononucleated leucocytes		Absent	—	Films made just before death from septic meningitis.
Leredde, two different cases	3,360,000	4200 to 10,000	80 %	Diminished	Increased		20–27 %	—	Methæmoglobin found.
	—	—	—	53·8 %	35·4 %		8·8 %	—	2 % of unclassed cells.
Author's cases (averages):									
Case 1.	5,075,000	10,030	90 %	56·8 %	20·4 %	7·5 %	7·8 %	—	6·5 % unclassed cells. Methæmoglobin absent.
Case 2.	—	10,400	—	59·6 %	22·4 %	5·5 %	11·2 %	0·3 %	—

considerably. Grinew (15) made a thorough examination of his case, and all the figures given are the averages of twenty-three complete blood examinations. Usually the polymorphonuclear leucocytes are relatively diminished, and usually at the expense of the mononucleated cells. As a rule, the large mononucleated leucocytes are somewhat increased. The eosinophile leucocytes have been reported as diminished in three of the cases (not including Kanitz's case), and markedly increased in six cases. Therefore, although an eosinophilia does not seem to be an essential feature it is present in a majority of the cases. The absence of eosinophiles in Kanitz's case may be disregarded for the same reason as was stated before. Methæmoglobin was found in the blood by Nikolski and Leredde. Case 1 was examined spectroscopically, but no methæmoglobin found. Leredde also noticed a great difference in the number of red blood-corpuscles on different days. Within two days he found a difference of from 500,000 to 1,000,000 red blood-corpuscles. This occurred repeatedly. He also found the leucocytes varying from 4200 to 11,000 within a few days. This is not to be wondered at, as there is bound to be a certain amount of absorption from the raw surfaces on the skin.

A great number of curiously altered leucocytes have been described by Leredde. These he considers as peculiar to Pemphigus foliaceus. He says more than half the white blood-corpuscles in the circulation are altered and abnormal in some way. He figures cells with irregular stellate nuclei and no visible protoplasm, cells with indefinite outline, cells with vacuolated nuclei, etc. One of my cases (Case 1) showed exactly similar cells which are evidently only broken up leucocytes (polymorphonuclear and mononucleated cells), which are so soft that the mere making of the blood-film breaks them up, and spreads them out in curious positions. These cells I have put down under the heading "unclassed," and may be seen in the blood in many inflammatory conditions, especially if the films are submitted to any pressure as they are being made. I do not attach the same significance to their presence as does Leredde.

The bone-marrow according to Kanitz shows a diminution of the lymphocytes, and a great number of large, pale, mononucleated cells. Pellegatti (43) found that the marrow contained 75 per cent. large mononucleated cells and 12 per cent. eosinophile myelocytes. These are the only two cases in which the marrow has been examined.

An examination of the urine in Pemphigus foliaceus has not shown any abnormality in the majority of cases. Transient traces of albumen have been present in several cases. Fabry's case had hæmaturia for a short time, but whether this was due to the eruption affecting the mucous membrane of the urinary passages was not ascertained. Krieger's (31) case had an absence of chlorides from the urine. Case 1 had abundance of chlorides; Case 2 was not examined for chlorides. Case 1 also shows, as is seen in the table, a marked diminution in the total urea excretion. Meynet and Ribollet record a similar condition together with a diminution of phosphates in their case. Possibly this diminution of urea may be due in part to an increased nitrogenous excretion from the exfoliating skin. Indicanuria (present in Case 1) has not been recorded in any previous cases.

The ætiology of Pemphigus foliaceus is still very much in the dark. Not much assistance is got from a study of its mode of onset or association with other diseases. A mental or physical shock has preceded it in some cases. Hardaway's (23) case was eight months pregnant when the disease first appeared, and Hallopeau and Constensoux's (19) case developed osteomalacia eight years after the Pemphigus foliaceus began. The latter consider that the skin and bone changes might possibly be both due to a common cause. Quinquaud's case began with renal insufficiency and general œdema. All these associated conditions therefore appear to have been accidental, and in no way essential to the occurrence of the disease.

Various theories have been advanced from time to time. There are at present four theories as to its cause which are worthy of consideration, viz. the parasitic, nervous, hæmic, and toxic theories.

The *parasitic* theory has not many supporters. The organisms found have not been constant. *Staphylococcus aureus* has once been found in the patient's blood. Cases 1 and 2 both gave pure cultures of staphylococcus from the blebs on the skin, but the presence of organisms on or in the skin is no proof that they are other than secondary infections. The condition being so generalised does not suggest a local parasitic cause, and the warm, moist surface denuded of its horny layer is an ideal one for the growth of organisms, and as no organisms other than those found on practically all such moist surfaces have been observed, as yet there is nothing to support the local parasitic theory.

The *nervous* theory has been repeatedly suggested. As a rule there are no nerve symptoms at all. Slight diminution in sensibility to touch has been recorded, but that must be very difficult to determine considering the altered condition of the skin. The increased sensitiveness to cold which these patients all experience can easily be explained by the hyperæmic condition of the skin. That the condition of the nervous system seems at any rate to predispose to the disease is seen from the fact that in Rivet's (47) and Lausac's (32) cases it began after a severe fright, and in Colcott Fox's (13) case after the mental shock subsequent on the death of a brother.

Bargum (1) examined the spinal cord and peripheral nerves in his case most thoroughly post-mortem and found no abnormality in the spinal cord, of which sections were cut at several levels. The left crural nerve contained isolated areas of degenerated connective tissue and also areas with no visible nerve-sheaths or axis cylinders. The superficial peroneal nerve showed degenerated connective-tissue fibres replacing the nerve tissue. The ulnar and median nerves and also a piece of the cutaneous nerve from the dorsum of the foot were examined, but with negative results.

Schwimmer (34) and Baber (1) in a case of Pemphigus chronicus found sclerosis of Goll's tract and a cellular infiltration around the vessels of the posterior horns of the cord. Sirsky (1) found diminution of the connective tissue of the spinal cord and degeneration and atrophy of nerve cells. Petrini (44) reports changes in the posterior columns of the cord in two cases. In three cases he also found alterations in the peripheral nerves in the skin and lesions in the spinal ganglia. Ferraro (11) found atrophy and degeneration of the ganglionic cells of the posterior horn of the cord. This atrophy affected the posterior nerve roots right down to the subcutaneous nerves. Meyer (34), Sormani (34), and Nikolski (41) also report atrophic and sclerotic lesions in the cord. Lausac, too, favours the spinal-nervous theory, as his case, beginning at the age of twelve, had scoliosis and kyphosis of the spinal column.

On the other hand, however, Kaposi and Rochmont (34) have examined cases where no nerve lesions were present at all. Therefore, as the nerve lesions are so variable and in some cases may be absent altogether, I think they must be looked upon as secondary to some other condition and not essential to the disease.

The *hæmic* origin of Pemphigus foliaceus was brought forward in 1899 by Leredde. He considers it a blood disease which shows clinically by the cutaneous phenomena which it causes. He thinks that Pemphigus foliaceus, Pemphigus vegetans, and Dermatitis herpetiformis are due to the action of some toxic substance on the leucocyte-forming organs, especially the bone-marrow, in which it causes a reaction. The bone-marrow is stimulated to produce substances which, circulating in the blood, produce the skin-eruption. This theory is based on the presence of a blood eosinophilia, which he claims is due to the stimulation of the bone-marrow, where such cells are produced. In further support of this view he quotes the fact that in the blood of a case of Dermatitis herpetiformis he found a mononucleated eosinophile cell (the precursor in the marrow of the eosinophile leucocyte of the blood), which is normally only found in the marrow. That, he concludes, is an index of great activity of the marrow cells. Against Leredde's view, however, is the fact that eosinophilia is not present in the blood of all cases.

The *toxic* theory is the one which seems to me to give the best explanation of the phenomena of Pemphigus foliaceus. This theory is to a certain extent associated with the nervous and hæmic lesions which are found. Audry (6) and Lausac suggested that toxins, produced by the body either with or without the aid of micro-organisms, caused by their absorption the degenerative changes which they found in the nervous system. Leredde also bases his hæmic theory on the assumption that it is some toxic substance which causes the stimulation of the bone-marrow which lead to alterations in the blood. In the literature I can find no direct mention of the alimentary canal as a possible source of the origin of Pemphigus foliaceus by the absorption of toxic substances. In support of this is the presence of indicanuria (found in Case 1). The irregular temperature, the general wasting and the occasional attacks of diarrhœa could all be explained thus. The changes in the blood and nervous system may similarly be due to the action of intestinal toxins, and might not the blood eosinophilia be similar in origin to that seen in cases of intestinal parasites? Johnstone and others have also adopted the intestinal toxin theory with regard to the origin of Dermatitis herpetiformis, and, as has already been shown, Dermatitis herpetiformis and Pemphigus foliaceus are very closely allied in many ways.

Turning now from these theoretical questions to that of prognosis, we find that this is extremely bad. Besnier is the only one of those who have written on the subject who has taken a hopeful view of it. He says: "Never despair; the patient may recover even after ten years." Kaposi and Sherwell (50) also record recovery, but all the other writers give a very unfavourable prognosis. The time which the disease lasts before a fatal issue is very variable, the shortest time recorded being one month after the onset in Nasarow's (40) case. Regensberger's case also died at the end of six weeks. These, however, are the exception, as the majority of cases have lasted for from two to four years or longer. A striking feature in most cases has been the comparatively good general condition of the patient, even after the disease has lasted a long time. Case 1 is a striking example of this, as when the patient was first seen it did not seem likely, from the general involvement of the skin and the constant evening temperature, that the patient could last long, yet after several months she is holding her own. Temporary recovery with relapses was seen by Sherwell, whose case recovered from the first attack after six months by treatment with ol. morrhuæ internally and externally, and later with linseed oil similarly administered. A year later there was a relapse, lasting three months, and again after eleven years a short relapse only lasting ten days. Of course this would suggest that the case was not a true Pemphigus foliaceus. In the first two attacks, when the eruption was typical of Pemphigus foliaceus, the whole skin was affected uniformly all over. The last attack, however, was not universal, the eruption being bullous in character and exfoliating, but only attacking part of the body.

Case 2 showed great amelioration after the disease had lasted eleven years. Where blebs continue to come out in addition to the exfoliation, the prospect of a long duration of the disease, or even recovery, seems to be greater than in those cases where there are no visible blebs at all. The final cause of death in many cases is exhaustion and marasmus from the continual exfoliation, absorption from the raw surfaces, and high temperature. Others die of pyæmia and others of intercurrent disease, especially acute conditions of the lungs. Kanitz's case died of septic meningitis and suppuration of the lungs, and a streptococcus was obtained post-mortem from the pus. The possibility of Pemphigus foliaceus developing into Pemphigus vegetans is illustrated by Fabry's case, but that, again, does not alter the prognosis in any way. A good many of the cases also had attacks of severe diarrhœa, which had hastened a fatal issue. This diarrhœa does not seem to have been due to the eruption attacking the mucous membranes, but probably to a toxic condition. In giving a prognosis it is also well to bear in mind that almost all cases have shown slight temporary improvement from time to time, only to relapse.

The treatment of Pemphigus foliaceus, like the prognosis, is very unsatisfactory. The patients, who are necessarily confined to bed, are difficult to handle, as the skin is so easily injured. As Nasarow recommends, a water bed is of assistance. The continuous bath may be tried where available, but Besnier (3), who tried it in one case, did not think it advantageous. Certainly for the patients' own comfort they should be bathed daily. This keeps down the offensive odour and removes material which, by its accumulation, leads to decomposition. In Case 1 the addition of potassium permanganate to the daily bath was found helpful. Of course precautions must be taken to avoid chills, as the liability to lung inflammations is very great.

For the internal treatment of such cases there is no specific. Many drugs, and especially arsenic, have been tried, but with no result. Fox recommends quinine internally, but the result in his case does not support his recommendation. Locally, the disease must be treated symptomatically. Poisonous drugs must be avoided, owing to the risk of absorption, as such a large surface is affected. The skin must be protected, and this is best done by some bland ointment or paste, *e.g.* bismuth oxychlor. gr. v to vaseline ℥j, which, by preventing evaporation and covering the denuded areas, adds to the patient's comfort.

With regard to the vaccine treatment carried out in Cases 1 and 2, nothing definite can be concluded. On the assumption that the disease of the skin is secondary to some internal toxin, one would not expect much effect from a vaccine from organisms from the skin. The vaccine, however, seems to keep down any tendency to suppuration in the lesions, and both cases certainly improved, but that may be only a temporary remission, as has already been mentioned in speaking of the prognosis. Further observation of the vaccine treatment is necessary before any definite statement can be made.

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NOTE ON A CASE OF EXCESSIVE GROWTH OF BEARD.

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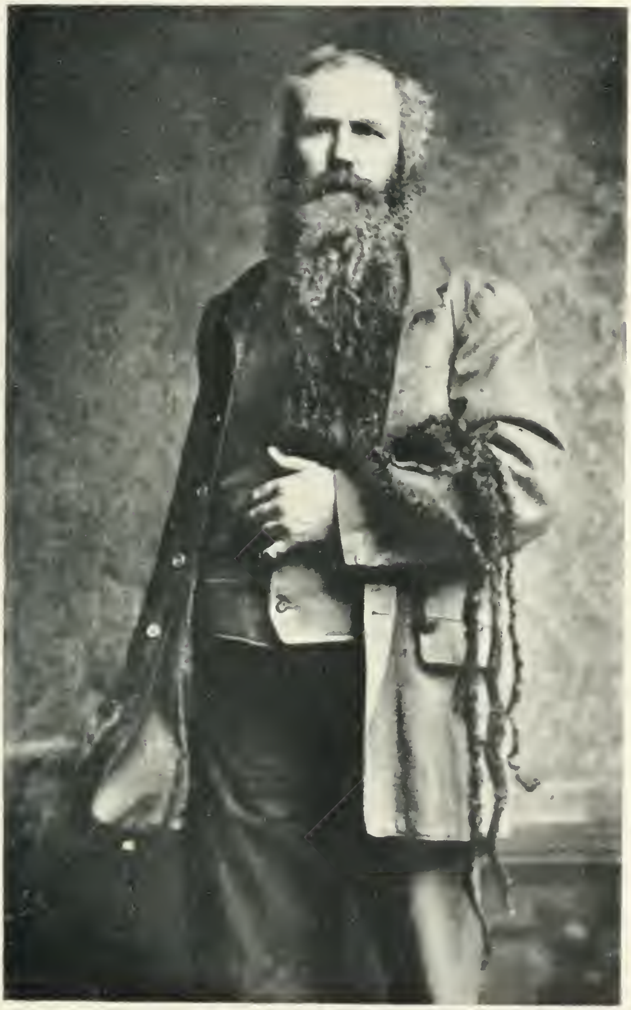
The beard of a patient (J. W—) grew with such remarkable and extraordinary luxuriance that for some years he amused and interested himself in testing what length it would attain. His method was to comb and brush his beard each night and carefully roll it up into a pad, which during the day was buttoned inside his vest as a sort of natural chest-protector, so that one could not easily detect anything unusual in his appearance.

At one period it measured 130 inches in length, although at times,



owing to the hair having become matted and unmanageable, he had been compelled to cut off considerable portions.

The photograph shows his beard hanging over his left arm in long ropes. He was an intelligent, able man, and as a foreman had control of a number of men for years. He died when sixty-four years of age, his throat and chest having suffered as a result of the experiment.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

An ordinary meeting of this Section was held at 20, Hanover Square, on Thursday, April 15th, 1909, Dr. **Radcliffe-Crocker**, President, in the Chair.

The following cases were shown:

Dr. H. G. **Adamson** showed a photograph of a mouse with favus. The mouse had been caught in the room in which had been sleeping the infant (Case 2) with favus on the cheek, whose case had been described at the previous meeting of the Section (*British Journal of Dermatology*, April, 1909, p. 116; *Transactions Royal Society of Medicine* [Dermatological Section], April, 1909). Cultures of *Achorion Quinckeanum* had been obtained from the scutula on the baby's cheek, and also from the lesions on the mouse's head. A photograph of the favus lesion in a similar case had been reproduced in the *Transactions of the Royal Society of Medicine* (Dermatological Section) for November, 1908.

Dr. **Pernet** said he had seen the same dirty cement appearance inside the auricles of kittens.

Dr. **Graham Little** showed (1) a case of *epithelioma of the tongue* in a man, aged 71 years, who had had syphilis fifty years previously, and had had only three months' treatment for that disease at that time. He did not appear to have had secondaries, but he had suffered for many years from chronic leucoplakia. Five years ago the warty growth now noted had begun to make its appearance and had spread continuously. It was now of the size of a shilling, and situated in the anterior half of the tongue; it was a papillomatous, almost villous growth, white and velvety in appearance. There was no glandular enlargement that could be felt in connection with it. The man was otherwise in good health, and with the exception of a few scars on the forehead, possibly from previous tertiary lesions, there was no other syphilitic manifestation. The man had been a heavy smoker all his life.

The **President** agreed with the diagnosis of epithelioma, and said the tongue should certainly be excised. Even when such cases appeared to be papillomata they were on the cancer border, and one could never be quite sure when they were over that border.

General agreement with this view was expressed.

(2) A case of *Lichen scrofulosorum* of most unusual extent of distribution. The patient was a little girl, aged about 10 years, and her history was that she had had measles last Christmas, and about six weeks later had developed the present eruption. She had previously been under the care of the exhibitor for several chronic and ulcerated patches, which he had regarded as tuberculous; there was one such patch which had persisted for two years on the upper part of the right arm, and there were several similar patches, or scars of such patches, on the legs, arms, and neck; in the latter position there were enlarged and reddened tuberculous glands. There was also phlyctenular ulceration of the left cornea with much conjunctivitis, and purulent otorrhœa and some bronchitis. The left tibia was apparently also tuberculous just below the knee-joint. The child was thus riddled with tuberculous disease. The eruption for which she was shown consisted of very minute pale pink papules about one-sixteenth of an inch in diameter, closely set together, too closely and copiously to allow of the circinate grouping so often seen in Lichen scrofulosorum. The eruption was homogeneous and most thickly distributed over the back of the body, the buttocks, back of thighs, and the sides of the chest and abdomen; these parts were quite covered with closely set papules. There were no subjective symptoms in connection with the eruption, which had persisted unchanged for more than six weeks.

(3) *A case for diagnosis, Urticaria pigmentosa* being the suggestion offered. The patient was an ex-soldier, aged 35 years, who eighteen years ago had contracted syphilis, and still had the scar of the primary sore on the glans penis. He had had secondaries, and had been treated for syphilis for a short time. The Wassermann test, modified in some important respects, had been applied to the patient's

blood by Dr. Fleming, of the Inoculation Department, St. Mary's Hospital, who reported a positive result. The experience of a considerable number of cases in the exhibitor's department of St. Mary's Hospital of clinical syphilis which gave a positive reaction with this test led the exhibitor to place much reliance on the positive findings, and he considered it, therefore, certain that this patient was still syphilitic. No lesions of this disease had, however, been noted for many years. About twelve months ago, however, he had noted the onset of an eruption, which had slowly spread and increased to the present stage; this consisted of a large number of small macules, one eighth of an inch in diameter, of a light reddish to brown colour, distributed chiefly over the back and front of the body. On the chest the macules were pinker than on the back, where they were browner. The eruption was also present, but much more scantily, and consisted of smaller lesions, on the forearms, where they looked almost like freckles. The skin was itchy, and when the lesions were subjected to friction they became turgid and red, after the manner of Urticaria pigmentosa, which, therefore, was the diagnosis offered. No general glandular enlargement was noticeable.

The advent of Urticaria pigmentosa in adults was a very rare event, and it was interesting to note that it had been usually mistaken for syphilis. The exhibitor had himself seen, and shown to the Section, a case in a woman, aged 40 years, in whom the diagnosis of Urticaria pigmentosa had been confirmed by a biopsy, and in whom the diagnosis of syphilis had been also made. He also recalled an adult case, shown by Sir Malcolm Morris to the old Dermatological Society of London, in which a similar confusion had been made, and yet another case, shown at the Dermatological Society of Great Britain, in a young adult man, who had had the eruption of Urticaria pigmentosa for three years, and had been treated for syphilis. The undoubted existence of syphilis in the case now shown complicated the diagnosis, but the character of the eruption and the long interval between its appearance and that of the primary sore, with the total absence of any history of reinfection, as well as the improbability of this event, made it almost out of the question to accept syphilis as a possible explanation of the present eruption. It was, unfortunately, impracticable to obtain a biopsy of this case, as the patient was leaving for America in a few days and refused permission.

Dr. T. D. SAVILL showed (for Dr. AGNES F. SAVILL) *a case for diagnosis.* The patient, a recently married woman, aged 23 years, presented an eruption at the angles of the mouth which at first sight resembled herpes. The eruption had started about two years previously as a small pimple and had rapidly spread to both angles of the mouth, and had remained more or less stationary for two years. At times it had decreased in size but had never entirely disappeared. During the last month it had begun to appear at the junction of the nasal mucous membrane and the skin of the left ala nasi. The eruption was symmetrical, presenting small close set vesico-pustules on a congested base, extending over an area about the size of a florin. There was no infiltration except at the angles of the mouth ; at the junction of the mucous membrane and the skin there was a thickening. There was no scarring, atrophy or pigmentation, nor had the eruption a crescentic outline.

After close questioning the patient stated that she had had a sore throat a year before the first "pimple" had occurred on the lips.

The Wassermann test performed at the Jenner Institute had proved positive ; sections from the skin showed numerous plasma cells.

Dr. GALLOWAY said he remembered the patient coming to Charing Cross Hospital six or eight months ago, when he experienced great difficulty in eliciting the facts. The appearance at that time suggested to him that she ought to have a good trial of mercury, which he therefore prescribed, but it now appeared that she had had very little of it : he had not seen her since that visit. His impression was that the condition was now in just about the same state as then, when there seemed to be granulomatous tissue present and some infiltration.

Dr. SEQUEIRA : a case of *recurrent whitlows and bullæ.* The patient, an unmarried lady, aged 38 years, was sent to Dr. Sequeira by Dr. Linnell, of Sheringham. She had been a midwifery nurse for eleven years. She was born in England, and has resided there except during seven months when she was on a visit in India, and for six months she was in Florida in charge of a patient. Five years ago she had a superficial whitlow on the right index finger, and for this the nail was removed. The trouble healed up under antiseptic dressings. Before this lesion appeared the patient had not been in attendance on any septic case, and she was actually on holiday at the time. Since then, at intervals, she has had whitlows requiring removal of nails on seventeen occasions. The fingers of the right hand have been affected most, and the right index nail has been removed five times. The left hand has not been so severely, nor so often, attacked. In addition to the whitlows bullæ have appeared. They have generally been confined to the backs of the hands and wrists. Twice she has had solitary blebs on the elbows. The toes and feet have not been involved. The whitlows are always painful.

Sensory disturbances: The patient has deficient sensation for all classes of sensory impression on both hands and forearms to a little above the middle. There is distinct difficulty in distinguishing between heat and cold. Tactile sensation is also impaired. There is a slight degree of anæsthesia of the feet and ankles. It is noteworthy that the areas of impaired sensation on the upper extremities are "glove" areas, while those on the feet are "sock" areas. The palate is markedly anæsthetic.

The knee reflexes are increased, there is no ankle clonus, and Babinski's sign is downwards.

For seven months during the warmer part of last year she was entirely free from lesions, and there have before been spells of immunity. When she was shown at the meeting the nail of the right index finger had been removed for inflammation. There was a new blister the size of a hazel nut on the back of the right wrist, and a few drying blebs on the back of the hands, and also some stains of older lesions. The fluid from fresh bullæ was found to be sterile. There was no eosinophilia.

The patient has been treated by vaccines before she came under Dr. Sequeira's care. She thinks the injections improved her condition for a time.

Her general health has always been good, and she shows no sign of visceral disease.

There is no deformity of the fingers, and it is remarkable that even where the nails have been removed three and four times there is little or no disfigurement.

Recurrent whitlows and bullæ on the extremities suggested Morvan's disease, but there are many points in this case against that diagnosis. In the first place the whitlows are painful, though Dr. Radcliffe-Crocker mentions a case under Morvan's disease in which the whitlows were painful. Secondly, there is no deformity even after symptoms lasting for five years. Thirdly, there have been prolonged intervals of complete freedom from blebs and whitlows. The inability to differentiate between hot and cold tubes applied to the skin is the one feature in favour of syringomyelia.

Lepra, of course, has been considered, but although the patient spent two short holidays in the tropics there is no evidence that she ever came in contact with a leper. The lesions also do not conform to the type of anæsthetic lepra. Neither the ulna nor any other nerve can be felt thickened.

Lastly, the possibility of the lesions being factitious demands attention. The patient is an intelligent woman; she is not entirely dependent upon her profession as a midwifery nurse for her living. Blebs have appeared on normal skin while the patient has been under observation in hospital, and during the past five years she has been carefully watched by several medical men. In favour of hysteria is the "glove" area of the anæsthesia, and the anæsthesia of the palate. It is difficult to decide, and for the present the patient is under observation in the London Hospital with a view to clearing up the diagnosis.

Dr. WHITFIELD showed an unusual case of *Lichen planus*. The patient was a woman who had come up to the Great Northern Central Hospital on December 23rd, 1908. She had then complained of an irritable eruption on the forearms, and was seen by Dr. Whitfield's clinical assistant in his absence. In the following week Dr. Whitfield saw her, and found large, swollen, red discs on the extensor surfaces of both forearms and on the proximal phalanges of the index and middle fingers of both hands. The patches on the fingers were infiltrated, of bright scarlet colour, finely desquamating over the surface, and extremely sore.

The patches on the forearms showed a slightly brownish, involuting centre with a bright red, raised and infiltrated edge also desquamating.

The whole eruption was therefore strongly suggestive of Lupus erythematosus, but close examination showed that the edges of the patches on the forearms were made up of multiple small, infiltrated papules, and on studying the papules carefully with a lens Dr. Whitfield found the milky striæ characteristic of Lichen planus. He then searched the whole of the rest of the body and the inside of the month, and finally discovered a single typical lichen papule on the inside of the left knee. The case was put upon perchloride of mercury, as it was not deemed advisable to give arsenic owing to the intensity of the inflammation. Under this the papule on the knee had disappeared and the other patches had become somewhat less irritable. He could not say, however, that the curative effect had been marked, because although the centres of the patches had almost cleared up there had been a very marked peripheral extension of all the patches on the forearms. The only local treatment which could be borne was Lassar's zinc paste.

Dr. Whitfield said he brought the case up for two reasons: first, the difficulty of diagnosis; and secondly, the resemblance to Lupus erythematosus.

As regards the first point, a gentleman of considerable dermatological experience gained in the clinics, both of this country and abroad, was of opinion that the disease was Lupus erythematosus and not Lichen planus.

Dr. Whitfield was quite prepared to have his own diagnosis questioned, although having watched the case for three months he was confident that his original diagnosis was correct—in fact the case presented less difficulty now than when first seen. As regards the second point, it had been maintained by several observers that histologically the lesions of Lichen planus were somewhat similar to those of Lupus erythematosus, and it was therefore interesting to find a case in which the clinical resemblances were also strong.

All those members present who expressed an opinion agreed with the diagnosis of Lichen planus.

CURRENT LITERATURE.

A STUDY OF ACNITIS, WITH REPORT OF AN EXTENSIVE CASE.

(Illustrated.) Dr. Jay Frank Schamberg, Philadelphia. (*Journ. of Cut. Dis.*, January, 1909.)

The author mentions as synonyms Acne agminata (Crocker), Acne telangiectodes (Kaposi), disseminated follicular lupus (Tilbury Fox), Hydradenitis destruens suppurativa (Pollitzer), and, after a review of some recorded cases, describes his own case.

The patient, a single man, aged 30 years, had a good physique, and led an open-air life. There was no personal or family history of tuberculosis, except in a paternal grandfather. In 1901 he contracted a chancroid. At the age of twenty years he had pimples on his face, and ever since pimples and boils on his neck. In February, 1908, an eruption appeared, and has persisted over the face and forehead and adjoining scalp. The author found numerous papules and tubercles scattered over the face, with a tendency to group in places, varying in size from a minute pin-head to a pea, mostly obtusely conical, the larger flatter. The colour was mostly brownish-red, and on pressure with a glass an underlying yellowish-brown discoloration was disclosed. Some lesions were waxy-looking and glistening. A number were apparently undergoing central necrosis and suppuration. Itching was slight. On the forehead and neighbouring scalp the few lesions were larger and deep seated. There was, whilst under observation, a continuous evolution of lesions, and one on the forehead developed into an abscess. The lesions left pitting. One or two were seen on the penis, and on the wrists and dorsal surface of the hands. The lesions gradually disappeared, spontaneously the author thinks.

For the histology three nodules were excised, showing yellowish centres, and fixed, some in formol Müller solution for general study, and some in alcohol for bacterial investigation. The sections were stained in hæmatoxylin-eosin, Gram, Gram-Weigert, Gram-fuchsin, methylene-blue-eosin, polychrome methylene-blue, and carbol-fuchsin-methylene blue. Under a low power an enormous circumscribed cell-mass extended from the sub-papillary layer throughout the corium, and was made up of inflammatory round cells; no plasma cells, normal mast-cells, a considerable increase of fibroblasts, and numerous scattered giant and epithelial cells. The centre of the cell-mass had undergone coagulation necrosis. In some sections an enormous infiltration of polymorphonuclear leucocytes were seen, constituting an abscess. The blood-vessels were increased in number, the capillaries dilated; there was proliferation of endothelium of the capillaries and veins. Extravasations of erythrocytes were seen. The lymph-spaces and vessels were distended, with general œdema of the tissues. The more superficial sweat-glands were extensively involved in the inflammatory process.

No tubercle bacilli or other bacteria were found. Ocular tuberculin tests failed, and a subcutaneous injection gave no evidence of tuberculosis. Inoculated guinea-pigs also failed to give proof.

The paper concludes with a review of bacteriological examination and animal inoculation in other recorded cases, also histological researches, and, finally, a discussion of the general features of acnitis, the treatment, ætiology, diagnosis, and cause and nature. The eruption is compared with syphilides, folliclis, and Acne vulgaris, but Acne necrotica is not mentioned. The author agrees with Barthélemy and Crocker that acnitis is not tuberculous.

T. C. F.

ON THE "WHITE-SPOT DISEASE." FRITZ JULIUSBERG. (*Derm. Zeitschr.*, 1909, xv, 12.)

ASSUMING with Unna that the distinguishing feature of sclerodermia of all varieties is a hypertrophy of the fibrous elements of the skin, possibly accompanied by secondary changes of a vascular nature, are we, asks the author, to regard the white-spot disease as a variety of *Sclerodermia circumscripta?* This disease was first described by Westberg from Unna's clinic in a little girl, aged 11 years. The lesions consisted of depressed spots varying in size from that of a millet-seed to that of a broad bean, round or oval in shape, chalk white in colour, and set in normal skin. The surface was smooth and unbroken, giving to the finger the sense of resistance of cardboard. These spots were found on the trunk only. Microscopically, Westberg found a thickening of the fibrous tissue, but the elastic fibres were normal, and there was no inflammatory infiltration. Other cases have been described under the same name by Abraham, MacLeod, Johnston and Sherwell, Montgomery, etc. But in none of these are the appearances found quite identical with those in Westberg's case, which therefore still remains unique. Cases are found of white-spot disease in which near the typical white spots are found patches of sclerodermia of ordinary size. There is therefore no sharp line to be drawn between the typical cases of white-spot disease and those of ordinary sclerodermia. In fact, the two varieties shade into one another. In short, Dr. Juliusberg answers his initial question in the affirmative, and he regards the histological description which he publishes of a case of white-spot disease as a contribution to the study of Sclerodermia circumscripta. The salient characteristics on which he lays stress are: (1) Alteration in the connective tissue. (2) An infiltration grouped round dilated blood-vessels at the margin of the plaque. This infiltration really forms a shell in which the sclerodermic spot lies, but when cut across is seen only as a narrow zone, and is the histological basis for the lilac ring which is clinically so characteristic. (3) A loss or reduction in number of the papillæ (Retezapfen). (4) Slight secondary alterations in the epithelial layer. The dilatation of the lymph-channels of the cutis is purely secondary, and not always observable. In the author's own case an exceptional feature is the grouping of the lesions round hair-follicles; this condition had not been previously described.

The paper is illustrated by a plate of the clinical and microscopical appearances of the author's case.

H. D.

FINSEN-REYN VERSUS QUARTZ-LAMP. Kromayer. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 169.)

The comparison of the two lamps as shown by the papers published from the Finsen Institute in Copenhagen are objected to by Kromayer, who states that the "Finsenfleck" and not the light energy of the lamp should be the basis of comparison. The comparatively greater necrotic changes in the superficial layers caused by the Quartz lamp are explicable by the fact that the rays of the Quartz lamp do not fall on the skin in an almost vertical direction as is the case with the Finsen lamp, but diverge in all directions and are therefore more completely absorbed. Also this necrotic effect is accounted for by the greater richness of the Quartz lamp in short-waved ultra-violet rays, but these can be cut off quite effectually by methylene-blue solutions.

J. L. B.

CLINICAL AND EXPERIMENTAL CONTRIBUTION TO THE PATHOGENESIS OF PRURITUS CUTANEUS PURUS IN RELATION TO SMOOTH MUSCLE. Vignolo-Lutati. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 217.)

Injection of pilocarpin caused erection of the whole hairy region and persistent itching. The smooth musculature was histologically found to be contracted, and a similar "goose-skin" condition was found in a patient every time he complained of nervous itching of his legs. Pruritus purus must be distinguished from Pruritus præeruptivus—a genuine and definite dermatosis.

J. L. B.

EXPERIMENTAL INVESTIGATION OF "TUBERCULOUS" CHANGES IN THE SKIN WITHOUT THE ACTION OF TUBERCLE BACILLI (TOXIC TUBERCULOSES) AND THE CONDITIONS OF THEIR ORIGIN. K. ZIELER. (*Münch. med. Wochenschr.*, August 11th, 1908.)

FOR the last twenty years the question of the so-called toxic tuberculoses has been a matter of interest to dermatologists. The nature of the matter has always prevented a solution from the clinical side, and as a consequence the existence of toxic tuberculoses has been denied by some authorities. Those diseases which might have been ascribed to the action of toxins have always occurred in patients who were the subjects of chronic tuberculosis, and the tendency has been to assume their causation as having arisen by a hæmatogenous route, either from little virulent or dead bacilli. And in some cases tubercle bacilli have been found, but this by no means disproves the possibility of the action of soluble metabolic products or toxins.

The question has of late assumed increased interest from the tubercle inoculations of v. Pirquet, which produce the histological picture of tuberculosis. The author has in the last few months excised portions of skin in twenty-six cases from six days to three and a half months after inoculation. At first the histological changes were not characteristic, but later nodules showed epithelioid cells and giant cells, often of the Langerhans type. Very characteristic was the appearance of these changes along the course of the blood-vessels, and more especially of the veins, whose walls were infiltrated and destroyed, causing complete occlusion of their lumen. These changes were observed also at a considerable distance from the point of inoculation.

The material used was the old Koch tuberculin, freed by filtration entirely from bacilli. There were also employed solutions of the tuberculin, which had been centrifugalised for from seventy-two to eighty-four hours, the upper layers pipetted off and then filtered. In such solutions the minutest examination failed to find tubercle bacilli or fragments of bacilli. Therefore tuberculin absolutely free from bacilli was used, and the reaction produced by such specimens was certainly no weaker than that produced by the original preparation as delivered from the Hoechst factory. The question arises whether endotoxins in the ordinary sense of the word are necessary to produce tubercular lesions. This question must be answered in the negative, nor is it necessary that the active substances be set free in the organism. It is sufficient that chemical substances derived from the bacilli be employed for skin injections without the presence of solid substances, visible or invisible. Further proof of this was obtained by suspending different varieties of tuberculin at thirty-seven degrees in sterile water enclosed in collodion sacks for different periods and injecting the dialysate. Controls were also injected, and it was found that positive results were obtained only with the tubercular dialysates. The histological examination of the changes induced by the injection of these substances showed definitely the characteristics of tubercular structure, and the author therefore claims that tubercular changes can be brought about by products derived from tubercle bacilli without the presence of corpuscular or even ultra-microscropic portions of the bacilli. The theory of so-called toxic tuberculosis obtains, of course, considerable support from such conclusions, and should they be confirmed by other observers the theory must stand on a firmer footing than it has previously done.

J. L. B.

THE CUTANEOUS SYMPTOMS OF HUMAN TRYPANOSOMIASIS.

DARRÉ. (*Ann. de Derm. et de Syph.*, December. 1908. p. 673.)

CUTANEOUS symptoms are sometimes among the earliest in sleeping sickness. and assume a special importance since so much depends on early treatment. Within a few hours of the bite of the fly, which is the cause of spreading the disease, redness, swelling, a sensation of heat or tension may be noted. On the following day sometimes a small tumour like a boil without a head appears; sometimes a red, violaceous, or rounded, slightly raised patch about the size of a franc. These lesions occur in the position of the bites, and generally upon the neck, legs, knees, flanks, or axillæ. They are usually slightly painful on pressure, and are accompanied by enlarged glands. The symptoms usually disappear in a few days, leaving a pigmented patch. Occasionally the redness and swelling are intense, and associated with lymphangitis and high fever, but suppuration does not occur. The trypanosome has not been found in these lesions, which are, it must be understood, on the whole of rare occurrence. They serve when present to establish the date of inoculation with the disease.

Another class of cutaneous symptoms may be observed later in the course of the disease—vesiculo-papular eruptions accompanied by itching, and polymorphic urticarial erythemata, which are not itchy. These may co-exist. Itching is very frequent, and may persist even when the attacks of sleep supervene. The polymorphic erythemata may come on at any stage of the disease, but are less common in advanced phases, and usually occur either at the same time as the fever or later than this. The circinate erythema, first described by Manson, is the commonest form, and is most frequently found on the back, the abdomen, the chest. The rash consists of rings, round or oval, and 4 mm. to 2 cm. in size. The skin enclosed in these rings is of normal colour and appearance. The eruption is sometimes transient, which is the rarer condition; more often it persists for months. It is favourably influenced by treatment concurrently with the other symptoms. Histologically the parasite has been demonstrated in the superficial plexus of vessels of the skin on which these lesions appear. The corium shows congestion, œdema, and a lymphocytic infiltration, chiefly perivascular in position, with some inflammatory reaction of the perivascular connective tissue.

E. G. L.

REVIEW.

THE MEDICAL ANNUAL. 1909.*

THE volume of the *Medical Annual* for 1909 fully maintains the high standard which the annual has attained as a guide to practitioners and a review of the advances which have been made in therapeutic knowledge during the past year. Comparatively few new drugs have been added during this period, but our knowledge has been considerably increased with regard to several which have been introduced recently. Atoxyl and the other arylarsonates have been tried in protozoal affections and in the treatment of syphilis. With doses of ·5 grm. of atoxyl injected subcutaneously retinal hæmorrhages were produced in a case, and various other toxic symptoms have been recorded, such as neuritis, vomiting, colic, etc. Its chief value seems at present to be in the treatment of trypanosomiasis. With regard to syphilis the results have been disappointing, and the general consensus of opinion is that it is of little value in the early stages of the disease with the object of preventing the local manifestations. In the tertiary period the outlook is more favourable, and cases have been recorded where the symptoms resisted mixed treatment with mercury and iodide, but yielded to atoxyl. The treatment of furunculosis by means of staphylococcus vaccine has been further put to the test and fulfilled its expectations. With regard to the important question as to the "necessity of estimating the opsonic index in vaccine treatment," Emanuel and Mackey state that "provided only small doses be used, and at sufficiently long intervals, vaccine treatment is capable of doing immense good in certain diseases, such as furunculosis or localised tuberculous affections, without any appeal being made to the opsonic index," and that "a dose corresponding to 100 million cocci may be relied upon to produce a positive phase in a patient who is developing an isolated furuncle, and a dose of 250 millions four days later may be relied upon to reinforce the action of the previous dose." Well-illustrated articles are contributed on the "Surgery of the Brain," by K. W. Monsarrat, "Surgical Disease of the Colon," by Rutherford Morrison, "Diseases of the Ear and Larynx," by Milligan and Sewell, and the "Nasal Accessory Sinuses," by Watson Williams. The subject of general medicine is dealt with by Robert Hutchison, tropical diseases by J. W. Stephens, syphilis by J. Thomson Walker, skin-diseases by Graham Little, gynæcology and obstetrics by Victor Bonney, nervous diseases by Purves Stewart, and eye diseases by J. Herbert Yearsley.

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THE BRITISH
JOURNAL OF DERMATOLOGY.

JUNE, 1909.

THREE CASES OF "ICHTHYOSIS FOLLICULARIS" ASSOCIATED WITH BALDNESS.

By J. M. H. MACLEOD, M.A., M.D., M.R.C.P.

The subject of the follicular diseases of the skin, in which horny plugs or filiform spines are present in the follicles, is a difficult one, and its difficulties have been much increased by the confusion which now exists with regard to the nomenclature connected with it. This is due, on the one hand, to the employment of the same name, modified perhaps by an adjective, to signify totally different conditions, such, for example, as the employment of the term "Keratosis follicularis" to mean Darier's disease (Psorospermosis follicularis vegetans), Keratosis follicularis spinulosa for Devergie's Lichen pilaris seu spinulosus, and Lichen pilaris to mean Keratosis pilaris of Brocq and Lichen pilaris seu spinulosus of Devergie; and on the other hand, to the use of various names to signify the same affection, such as Folliculitis rubra and Ichthyose ansérine des scrofuleux, etc., for the Keratosis pilaris of Brocq.

The presence of horny plugs or spines in the follicles may be the characteristic feature of a dermatitis, or it may be merely an occasional concomitant. For example, it may be regarded as the salient characteristic of Lichen pilaris seu spinulosus, while it is an occasional feature in Lichen scrofulosorum, Lichen planus, and Seborrhoic dermatitis. Having recently, through the kindness of my colleague, Mr. Treacher Collins, had the opportunity of studying three unusual cases of follicular disease associated with baldness in one family, I had reason to look over the somewhat extensive literature on the subject, and it may be of interest to record these cases in detail and to discuss their relationship with other follicular conditions with which they might be confused. Two out of the three cases and a photograph of the third were exhibited by Mr. Treacher Collins and myself at the Dermatological Section of the Royal Society of Medicine in December, 1907, and a short account of them was given in the *Proceedings* of the Society.*

Description of the Three Cases.

These cases first came under the observation of Treacher Collins in 1902, at the School of the Metropolitan Asylums Board at Swanley, suffering from trachoma. They were sent up by him to the Skin-Department at Charing Cross Hospital in August, 1907, where I saw them and the following notes were taken :

Family history.—A definite and reliable family history was not obtained, and the only points elicited were that the father's family was "consumptive," though he did not suffer from that disease himself, and that the mother's father had "weak eyes" and entropion. The family consisted of five boys, and of these the eldest, aged 19 years, and the two youngest, aged respectively 13 and 10 years, were affected with Keratosis pilaris, while the remaining two, aged 16 and 14 years, were perfectly healthy.

Case 1. *William B—, aged* 19 *years.*

At birth the boy's skin appeared to be normal, but when an infant in long clothes he was taken to Westminster Hospital to consult Dr. Hebb about the skin of his face and eyebrows, the eyebrows being the first region to be affected. The exact condition at that time was not ascertained. When five months old he had measles, and after that the eruption spread rapidly to other parts of the skin. At the age of five years trachoma appeared, and he had to be removed from school on account of the photophobia associated with it. The trachoma has persisted since then. His general health has been invariably good, and at the time of examination he was a fairly well-nourished youth of medium height.

State of the skin on examination.—All the regions of the body where hair-follicles occurred, with a few exceptions to be mentioned below, presented innumerable pin-head-sized papules, arranged in groups or patches or widely distributed in an irregular manner. These papules were obviously follicular, of the colour of the skin, and presented no inflammatory halo around them. The great majority of them were surmounted by conical horny plugs, varying in length up to 3 mm., and where most marked imparting to the skin the feeling of a nutmeg grater. When the horny plug was picked out, which could be easily done, a small depression was left. The distribution of the lesions was roughly symmetrical. They were most numerous on the extensor aspects of the upper extremities, the back and sides of the neck, the upper lip, ciliary and superciliary regions, and the buttocks. On the back and loins a few groups and several disseminated lesions occurred, and there were a few scattered lesions on the abdomen, but none on the front of the chest, though many of the hair-follicles were more visible and palpable there than normally. On the upper part of the face and the extensor aspects of the legs the papules were absent, but the skin was dry and rough as in ichthyosis. A small group of papules were present on the dorsum of the hands, but none occurred on the backs of the fingers. They were present, however, on the dorsum of the feet and toes. The skin of the knees and elbows showed marked hyperkeratosis. No lesions were present on the scalp, and the hair had not come out; on the other hand the eyelashes had gone, and the eyebrows were affected and hairless. The skin as a whole felt dry and harsh. The sweat-glands were present and the patient perspired freely in warm weather and on exertion. The peripheral circulation was feeble and the hands

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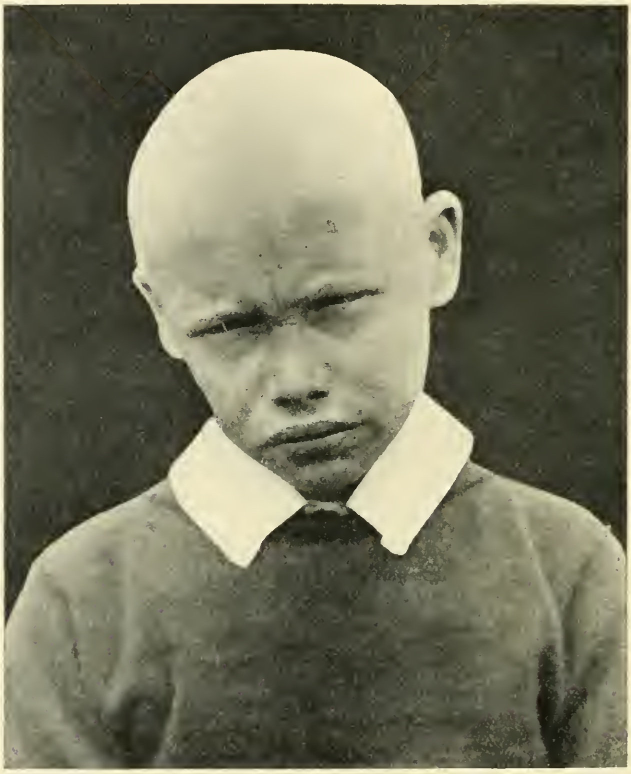
* *Brit. Journ. Derm.*, 1908, vol. xx, p. 13.

FIG. 1. CASE 2.



cyanotic and cold. There were no definite subjective symptoms such as itching associated with the lesions.

Case 2. Alfred B—, aged 13 years.

The patient was a delicate-looking boy, who presented a curious appearance owing to the absence of hairs on the scalp, eyebrows, and eyelashes, and the presence of well-marked trachoma. At birth his skin appeared to be healthy, and it was not till he was two years old that it was noticed to be diseased. The trachoma was observed at birth, or soon after, and has persisted since then. At the age of seven years his hair began to fall from the scalp in a patchy fashion, beginning on the occipital region. His general health has been fairly good.

At the time of examination much the same condition of the skin with regard to the type and distribution of lesions was found as was present in Case 1. The opening papules were less abundant and more widely distributed than in the first case, but presented the same clinical features. In this case the chest was not exempt, but the face was less widely involved, only the chin and eyebrows being affected. The backs of the hands were more affected than in Case 1, and lesions were present on the dorsum of the fingers. In this case the scalp was markedly involved and hairless, with the exception of a few downy hairs at the sides. It presented a pinkish tinge, and was rough owing to the presence of plugged follicles and scales. The eyebrows were similarly involved and hairless and the eyelashes were absent. The downy hairs from the scalp showed no evidence of monilithrix. The skin of the extensor aspect of the legs, the front of the knees, and the extensor aspect of the arm and elbow was dry, finely scaly, and rough, as in ichthyosis (see Fig. 1).

Case 3. Leonard B—, aged 10 years.

The patient was a weakly looking boy, and presented the same peculiar appearances as Case 2 owing to the partial absence of hair and the presence of trachoma. His skin seemed to be healthy at birth, and the first region to be affected was the face. At the age of two years the skin was noticed to be dry and rough, and much of the hair had disappeared from the scalp. The skin was similarly affected to that of Case 2, presenting numerous spiny papules on the extensor aspects of the arms, the back, chest, and abdomen, and about the chin. The eyebrows and eyelashes had disappeared, and with the exception of a few tufts of hair on the left side the scalp was quite bald. There was no suggestion of monilithrix in the hairs from the tufts. The scalp was pinkish in tinge, dry, rough, and scaly, and here and there showed prominent follicles, with small plugs in them. The skin of the thighs, knees, and elbows, and sides of neck was dry and harsh as in xerodermia.

SUMMARY OF CLINICAL APPEARANCES PRESENTED BY THE THREE CASES.

The three cases all presented a strikingly similar appearance owing to the absence of eyebrows and eyelashes, the more or less complete baldness of the scalp, and the presence of the trachoma and conjunctivitis. The skin was similarly affected in all the cases, though varying in the extent to which it was involved in each. The hairy system was the part chiefly affected, in certain situations the hairs being replaced by pin-head-sized papules surmounted by horny spines, the papules being the colour of the normal skin and not surrounded by any inflammatory halo. These, while occurring more or less all over the skin, except the palms and soles, were most marked on the extensor aspects of the upper arms, back and sides of the neck, and the back. They were irregularly distributed and tended to be roughly symmetrical.

In addition to the follicular lesions the skin was dry and harsh from the presence of a fine scaliness. It was a typical xerodermic skin, and about the buttocks, thighs, and knees the scaliness was sufficient to merit the designation of mild ichthyosis. The eyebrows and eyelashes were absent in all three cases, and in the younger two the scalp was almost completely bald. There were no subjective symptoms associated with the skin-affection. There was no definite atrophy at the mouths of the follicles succeeding the involution of the papular lesions, such as has been described in Taenzer in the group of cases designated by him as "Ulerythema ophryogenes." The sweat-glands were not affected and the patients perspired freely on exertion.

The three boys all seemed to be somewhat delicate, though their general health had been fairly good. There was no evidence of tuberculosis or syphilis in any of them, nor was there any history of ichthyosis or other chronic skin-affection in the parents. At the birth their skins appeared to be healthy, and the affection developed within the first two years. It was noticed first on the face in all three cases; in Case 1 the eyebrows were first involved, in the other two the exact site of onset was not ascertained.

Note.—Since the cases were exhibited the two younger boys have been treated with thyroid extract one grain and a half daily. After two hundred days this treatment was discontinued as there was absolutely no improvement. I am indebted to Dr. M. Lyden, of the White Oak School, Swanley, for this note.

THE RELATION OF THE ABOVE CASES TO THE DIFFERENT TYPES OF KERATOSIS OF THE FOLLICLES, AND A SHORT RESUMÉ OF THE LITERATURE ON THE SUBJECT.

A search through the extensive and most confusing literature on this class of skin-affections did not reveal any case which was in every way identical with those described above, but they had so many characteristics in common with the "Keratose pilaire" of Brocq that there seemed to be little doubt that they belonged to that category, and were quite distinct from the Lichen pilaris seu spinulosus of Devergie, a detailed description of which was recently published with an exhaustive survey of the literature by H. G. Adamson.* In this short *resumé* of the literature I will only refer to the cases which closely resemble those of the three boys, and in the description of which sufficient detail has been given to make it possible to recognise them.

The earliest description of this type of case is that by Erasmus Wilson,† who described it in his lectures in 1878 under the heading of "Folliculitis rubra."

According to Erasmus Wilson, "Folliculitis rubra was a form of subacute inflammation of the follicle associated with malnutrition of the skin, and characterised by red puncta, more or less prominence of the aperture of the follicle, and a loaded state of its excretory duct, which is distended with epithelial exuviæ. It affected the eyebrows, maxillary region, the back and upper arms, where the obliterated follicles communicate a sense of roughness to the hand when passed over them. There was suffused redness of the parts affected. The hairs growing from the follicles had many of them fallen out, and in the course of time the eyebrows became extremely denuded, the outer half first. There may be much or little redness, and the skin may be scurfy or smooth. The cause is "defect of nutritive power operating in a congenitally and sometimes hereditarily weak skin." Wilson believes it to be closely allied to ichthyosis, and quotes the case of one family in which the father was ichthyotic and four daughters suffered from "Folliculitis rubra." He compared the condition of the scalp to what was known by the ancients as "Xerasia capitis," a pityriasis associated with a progressive tendency to atrophy of the hair-papillæ, followed by ejection of the hairs. The general health of the patient affected may be fairly good.

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* Adamson, *Brit. Journ. Derm.*, 1905, vol. xviii, p. 39.

† Erasmus Wilson, *Lect. on Derm.*, 1878, p. 217.

The cases which I have described correspond closely to the above description, and there can be no doubt that this is the disease which was subsequently described in detail by Brocq under the heading of "Kératose pilaire." The only point in which there was any difference was that in Erasmus Wilson's description the condition was regarded as a "subacute inflammation," and there was no distinct evidence to that effect in our cases. At the same time, however, it will be noted that Wilson regarded it as allied to ichthyosis, and refers to it as caused by defective nutrition operating on a congenitally weak skin.

In 1878 Tilbury Fox* described the same condition under the new name of "Cacotrophia folliculorum," and a year previously he showed a case of it at a meeting of the British Medical Association in Manchester.

Tilbury Fox's description corresponded with that of Erasmus Wilson. He regarded it as differing from Lichen pilaris in its greater severity, the deeper and more complete affection of the follicles, its congenital nature, its more general distribution, and its obstinacy to treatment. He found that the disease occurred in strumous young women chiefly.

Mr. Hutchinson, commenting on the case, regarded it as ichthyosis affecting the follicles, but Dr. Tilbury Fox dissented from this view.

In 1879 Guibout† referred to somewhat similar cases, under the heading of *"Acne cornée sebacée,"* which he distinguished from ichthyosis.

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* Tilbury Fox, *Brit. Med. Journ.*, May 11th, 1878.

† Guibout, *Malad. de la Peau*, 1879, p. 662.

The term "acné cornée" has been applied in different senses by different writers. It was introduced by Biett and Cazenave, and applied to a group of follicular diseases, including Brooke's Keratosis follicularis contagiosa and Darier's disease. It was used in a much more restricted sense by Hardy, Leloir and Vidal, and most probably corresponds to Lichen pilaris seu spinulosus. It is interesting, however, to note that Lesser, in describing "Ichthyosis follicularis" in Ziemssen's handbook, regards it as the same as the Acne cornée of Guibout, and the Ichthyosis follicularis of Lesser is the same affection as the Keratose pilaire of Brocq.

In 1882 the affection was named by Lemoine* *"Ichthyose ansérine des scrofuleux,"* since, like Tilbury Fox, he believed it to be essentially a disease of malnutrition and occurring in the scrofulous.

In 1885 Lesser† described the case of *"Ichthyosis follicularis"* referred to above.

The patient was a boy, aged 6 years, who a week or two after birth was noticed to have a harsh skin over the bridge of the nose and the edge of the auricles. At birth the head was without any hair, and only during his third year did a scanty growth appear. When he was six years old his skin was markedly affected. Over the extensor aspects of the extremities and on the face over the brows, nose, and auricular ridges "thin, compact, scaly columns" as long as a millimetre were seen projecting from a large number of the follicles. The flexor aspects and the trunk were much less affected, and the palms and soles were entirely free. On the scalp, which had a few isolated hairs in the centre and a scanty growth at the periphery, epidermal spines were seen projecting from a large number of hair-follicles. The eyebrows were entirely wanting, and in this region the affection was very marked. This affection Lesser considered to be a form of ichthyosis and distinct from Lichen pilaris.

Lesser's case has so many striking points of resemblance with ours that there seems little doubt that they belong to the same category.

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* Lemoine, *Ann. de Derm. et de Syph.*, 1882, p. 274.

† Lesser, *Ziemssen's Handbook of Skin-Diseases*, 1885, p. 236.

Liveing,* in 1885, recognised this type of case, and referred to it as "follicular xeroderma." He regarded it as distinct from Lichen pilaris of Wilson.

Hardy, who was among the first to restrict the use of the term "Acné cornée" to refer to Lichen pilaris, also recognised this type of case as being distinct from Lichen pilaris, and described the affection under the heading of "Ichthyosis corne."

Besnier,† writing in the *Annals de Derm. et de Syph.* in 1889, proposed various names for the condition, such as "Xérodermie pilaire érythémateuse progressive," "Ichthyose rouge," "Ichthyose pilaire," "Ansérine rouge."

Taenzer,‡ in 1889, described a remarkable series of cases which have been regarded by Dubreuilh and others as advanced examples of Keratosis pilaris. He named them "Ulerythema superciliare seu ophryogenes," or scar-leaving erythema of the eyebrows. Taenzer's cases have so many features in common with our cases as to suggest that they are a rare further stage of the same condition.

Taenzer observed in all six cases of this scar-leaving follicular affection, and he believed them to be unique and previously unrecognised. The leading characteristics of the affection were a plugging of the hair-follicles in certain regions to form acuminate papules on an erythematous base ("Lichen pilaris on a red base"), followed by atrophy of the hairs and the formation of small pitted scars. The affection began in five of the cases in childhood between the ages of three and twelve years; in the other case the age of incidence was not known. It was preceded in two of the cases by infantile eczema. In five of the cases the first sign of the affection was redness of the eyebrows, followed by loss of the hairs. From there the disease spread to neighbouring parts of the forehead, cheeks, and scalp, appearing later on the neck and extensor aspects of the limbs. In mild cases the eruption consisted of erythematous patches dotted over with horny plugs at the orifices of the follicles. In severe cases the hairs had to a great extent disappeared and the scalp was more or less completely bald, and the eyebrows, especially the outer halves, were hairless. Where the disease had persisted for some years atrophy had taken place at the mouth of the follicles, and depressed scars surrounded by a hyperæmic halo were present in large numbers over the scalp, giving it the appearance of a scalp which had recently recovered from favus, and scarred patches also occurred on the eyebrows. Atrophic patches were noticeable on the cheek and forehead. The atrophic change was the latest stage in the disease, and was only present in the cases of old standing. The disease had a family tendency, and three of the cases occurred in one family—in the mother, son, and daughter.

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* Liveing, *Handbook of Skin-Diseases*, 1880; *Notes on Treatment of Skin-Diseases*, 1885.

† Besnier, *Ann. de Derm. et. de Syph.*, 1889, p. 710.

‡ Taenzer, *Monats. f. Prakt. Derm.*, 1889, vol. viii, p. 197.

Unna* described the histology of the affection, and noted that the leading features in the histological picture were the erythema, the horny papule, and the atrophy. He found that the blood-vessels of the papillary and sub-papillary layers were dilated, the dilatations being most marked around the follicles. There was no definite cellular infiltration around the follicles, but the collagen was rarefied. The epidermis was normal except at the hair-follicles. There was hyper-keratosis of the funnel of the follicles, forming a horny plug, which extended down more deeply than in Lichen pilaris or Keratosis supra-follicularis of Unna, which he regarded as a different affection. In many of the follicles the hair was twisted spirally and in others it was absent. A piece of scarred skin was also examined and in it the hyperæmia had disappeared, the epidermis was atrophied, and the connective tissue around the follicles had become sclerotic.

The essential difference between Taenzer's cases and ours was the occurrence of scarring, of which there was no suggestion in the cases described above. Still, the scarring was not invariably present in Taenzer's cases, and only occurred after the disease had persisted for some years.

The most detailed description of this type of case is that given by Brocq in 1890, when he described it under the heading of "Kératose pilaire," and discussed at considerable length the literature on the subject. This may be regarded as the classical description of the disease.

According to Brocq † "Kératose pilaire" is a disease of the skin in which acuminate or rounded papules occur at the follicles, situated on a more or less red inflammatory base, and associated with atrophy of the hair and dryness of the surrounding skin. The lesions were present on the face, trunk, and limbs, but never on the scalp, though he noted that the scalp was frequently dry and scaly in such cases. The distribution of the lesions varied considerably in different cases. On the trunk and limbs the lesions consisted of small circumpilar elevations, rounded or acuminate in shape, about the size of a pin's head, and surmounted by a dry scale or a spine ½ to 1 mm. in height. The lesions might be white in colour like the neighbouring skin (Kératose pilaire blanche) or definitely inflammatory, with a red or violaceous tinge and occasionally an acneiform appearance (Kératose pilaire rouge). The lesions were sometimes distributed without order on a normal or xerodermic skin; at other times they were arranged in irregular patches, sometimes enclosing areas of healthy skin. On the sides of the neck the lesions tended to be flat or oval in shape. In the mildest cases the scales were easily removed by soap and water and the roughness of the skin reduced. The hairs of the affected follicles were atrophied, either completely or so diminished in size that they appeared as a black speck in the centre of the papule. The intermediate skin either showed little or no alteration, or was red, violaceous, and mottled, and was frequently dry and covered by a fine desquamation, as in xerodermia. As a rule there were no subjective symptoms, but occasionally intense itching occurred. The most common situations to be affected were the posterior aspects of the arms and forearms, the buttocks, thigh and calf. It rarely occurred on the upper part of the thorax, the middle of the back, the axillæ, popliteal spaces, and on the hands, except on the dorsal aspects of the first phalanges. On the face it was specially localised about the eyebrows, forehead, and jaws, and the lesions were more numerous, though smaller, than those on the trunk and limbs. The lesions on the face were frequently situated on an inflammatory base, and telangiectases sometimes occurred, forming a network around them.

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* Unna, *Histopathology* (Walker's translation), 1896, p. 1086.

† Brocq, *Ann. de Derm. et de Syph.*, 1890, tome i. p. 24.

The lesions, on involuting, were not infrequently replaced by small cicatrices. The eyebrows were often attacked, and where the hairs had become atrophied and had disappeared the skin appeared pink and inflamed, or was white and cicatricial.

The disease often began at the outer part of the eyebrows. The eyelashes of the upper lid were sometimes attacked. Brocq had not seen it on the scalp.

The affection appeared between the ages of two and three years, increased up to puberty, remained stationary in adult life, and tended to disappear in old age. Brocq regarded it as an entity, and distinct from ichthyosis, and of inflammatory origin. Still, he noted that it tended to run in families, and sometimes occurred in the children of ichthyotic parents. With regard to the histopathology, Brocq, being unable to obtain biopsies in his own cases, quotes Lemoine's results in this connection. Lemoine noted a thickening of the connective-tissue bundles around the hair-follicles, the spaces between them being filled up with embryonic cells. The lymphatic spaces were smaller than normal, and the cellular infiltration in them showed evidences of active inflammation; the elastic tissue-fibres also seemed to be excessive. Associated with the hypertrophy of the corium there was atrophy of the papillæ, which were irregular and had disappeared in places. The epidermis showed hyperkeratosis and the formation of a horny plug at the follicular orifice. Each follicle was surrounded by embryonic cells extending from the root up to the neck. The sebaceous glands seemed to have disappeared. (There is no reference to the state of the blood-vessels in Lemoine's description.)

Cases Shown at the Dermatological Societies in London.

A search through the *Transactions* of the Dermatological Society of London, and Great Britain and Ireland showed that only a few definite cases had been demonstrated, and that the affection, which in mild degrees is comparatively rare, had attracted little attention. It is true that a number of cases have been presented under the heading of "Keratosis pilaris," Ichthyosis follicularis, etc., but unfortunately in the majority of cases the descriptions of them in the *Transactions* are so brief that it is impossible to recognise them from the notes.

In April, 1895, Colcott Fox* showed a case of *Ichthyosis follicularis* in a girl, aged 4 years. This case he regarded as a good example of ichthyosis, specially picking out the follicles. In this case "all the follicles of the body were projected, but although the skin felt rasplike there was no spine and no noticeable congestion. The skin between the lesions was not obviously xerodermic, but the palms were distinctly dry, like those in mild ichthyosis. The condition had existed, it was said, from birth. A sister was in a similar state."

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* Colcott Fox, *Brit. Journ. Derm.*, 1895, vol. vii. p. 152.

For comparison he showed at the same meeting a case of "*Keratosis pilaris of Brocq* (Xérodermie pilaire of Besnier) in a boy, aged 13 years. Here the papules were similar, but many were distinctly congested. There were no spines." The backs of the arms, buttocks, and thighs were specially involved, but a considerable number of lesions existed also on the trunk.

Sir Malcolm Morris,* in June, 1895, showed a case of Keratosis pilaris in a boy, aged 5 years, where the upper arms, especially the outer aspect, were rough to the touch and presented a number of fine, small, spiny processes. The palms of the hands were rough and the lines were well marked. The thighs also presented a similar spiny condition, and the whole skin, including the scalp, was everywhere dry and harsh to the touch. The condition was first noticed at the age of three years. There was no history of a similar affection in the family. The hair was normal.

In 1904 Chalmers Watson† published a case of "Keratosis pilaris, with special reference to the vascular changes in the skin." The patient was a boy, aged 6 years, who was thin and poorly developed. The skin of the buttocks, posterior and lateral aspects of the thighs, and extensor aspects of neck and axillæ showed numerous conical papules, many of which were pierced by a stump of a hair and presented a spinous appearance. The intervening skin was dry, inflexible, and hairless. The hair of the head was dry and lustreless, and there were marked indications of senile baldness. The eruption had existed eight months and was progressive. The disease was associated with a slow pulse, constipation, and fœtid stools.

Histological examination.—There was sclerosis of the corium with an increase of small round cells in the papillary layer. The blood-vessels were dilated and their walls thickened. The sebaceous glands seemed to have disappeared. The mouths of the pilo-sebaceous follicles were dilated into funnel-shaped openings and packed with horn-cells.

The case was treated with various measures to minimise septic absorption from the alimentary tract, and with daily innunction of the affected skin with myelocene (a product of bone-marrow). Under this treatment the eruption disappeared, the hair developed, and the general health of the patient improved.

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* Morris, *Brit. Journ. Derm.*, 1895, vol. vii, p. 214.

† Chalmers Watson, *Brit. Journ. Derm.*, 1904, vol. xvi, p. 1.

The writer regarded the case as one of chronic irritation of and defective nutrition of the skin, resulting from some irritant whose source was in all probability the alimentary tract.

In a paper read at the annual meeting of the American Dermatological Association at Annapolis in 1908 on "Congenital Alopecia," Nevins Hyde,* of Chicago, showed a photograph of a case which was strikingly similar to No. 2 of our series.

The patient was a boy, aged 6 years, in whom the scalp was partially bald, except for some lanugo hairs, the eyebrows were defective, and the eyelashes appeared to be absent in the photograph. The condition had existed since birth, and was associated with moderate Keratosis pilaris of the scalp, neck and trunk. Other congenital anomalies existed, such as webbing causing syndactyly of the second and third toes of both feet. The details of this interesting case were not published.

RELATION OF THE CASES TO KERATOSIS PILARIS OF BROCQ AND TO ICHTHYOSIS FOLLICULORUM.

In almost every detail the cases above described correspond to the Kératose pilaire blanche of Brocq. The type of follicular lesion, its distribution, the occurrence of the cases in one family, and the presence of xerodermia all went to show that the cases, if not identical with those of Brocq, were certainly very closely allied to them. The difficulty of regarding them as identical with Brocq's cases is the fact that they were clearly ichthyotic in type. They were cases of ichthyosis in which the follicles were chiefly involved, but in which ichthyotic changes were present also in the intervening skin in the common situations for mild ichthyosis to occur. Brocq did not consider that Keratosis pilaris was a form of ichthyosis, though he admitted that they had many points in common, and that the disease tended to occur in children of ichthyotic parents. His chief reason for distinguishing Keratosis pilaris from ichthyosis affecting the follicles was that in his cases of Keratosis pilaris there was a slightly later onset, and in one type of it named the "Kératose pilaire rouge" there was an inflammatory tendency which he believed to be the cause of the follicular change. In answer to those arguments it may be pointed out: (1) That the fact of the malady being first noticed in some cases later than the second year does not preclude the possibility of its being there to a mild extent before, and even although it did appear after the second year that does not place ichthyosis absolutely out of court, and (2) that it might with almost equal reasonableness be argued from Lemoine's description of the histology, quoted at length by Brocq, that the inflammatory changes were not primary, but secondary, and might be due to local irritation, infection or other cause operating on a skin the resistance of which was much weakened owing to the presence of ichthyosis in and between the follicles.

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* Nevins Hyde, *Journ. of Cut. Dis.*, 1909, vol. xxvii, p. 1.

In this view Brocq is supported by various authors, such as Tilbury Fox and Unna.

On the other hand a number of writers have described under the heading of "ichthyosis" cases which appear to be identical with Brocq's "Keratosis pilaris," and which he himself regards as such: for example, Lemoine called such cases "Ichthyose ansérine des scrofuleux," various writers have employed the term "Ichthyosis follicularis" for them, and Hardy named the condition "Ichthyose cornée."

Whether or not there are two distinct entities, namely, (1) an ichthyotic follicular process causing a group of symptoms of which our cases are an excellent example, and in which inflammation, if it does occur, is a secondary phenomenon, and to which the name "Ichthyosis follicularis" may be aptly applied, and (2) an acquired condition which may occur later than the time in which ichthyosis usually manifests itself, and results, perhaps, from a chronic inflammation localised at the mouths of the follicles, and which corresponds to the Kératose pilaire rouge of Brocq and the Keratosis suprafollicularis of Unna is a question which it is difficult to answer categorically. There is no doubt that cases of mild plugging of the follicles in the region above mentioned may occur at any age, and may show no definite signs of ichthyosis. Mild degrees of this are so common as to attract little or no attention. These cases are frequently associated with malnutrition, show little or no evidence of inflammation about the lesions, and may be the result of local irritation or be toxic in origin.

Differential Diagnosis from other Follicular Diseases.

Keratosis follicularis of Brocq.—As has already been stated our cases corresponded in almost every detail with those of Brocq. The only points of distinction between the two sets of cases, and they are minor ones, were that (1) in some of his cases the lesions were red and inflammatory while ours were invariably pale like Brocq's Kératose pilaire blanche; (2) that the lesions were occasionally followed by a scar, and that so far there has been no evidence of scarring in our cases; and (3) that the scalp was not involved in Brocq's cases to the same extent as in Cases 2 and 3 of our series, but was only dry and scaly, as in Case 1.

Lichen pilaris seu spinulosus of Devergie (Keratosis follicularis spinulosa of Unna).—The chief points of distinction between our cases and Lichen spinulosus are: (1) That in the latter the lesions are invariably papules with filiform spines, while in our cases, though definite spines 1 to 2 mm. in height above the surface did occur, they were inconstant, and many of the lesions were simply acuminate follicles with a horny plug at the orifice producing the feeling of a nutmeg grater, or were capped by a minute horny scale; (2) that in Lichen spinulosus the lesions occur in definitely circumscribed patches about the limbs and trunk, while in our cases the lesions were as a rule diffusely distributed chiefly about the extensor aspects of the arms, buttocks, neck, etc., and if they did form patches these were irregular, indefinite, and faded away into the surrounding skin; (3) in Lichen spinulosus the long hairs are not affected, while in our cases they had gone from the eyebrows and eyelashes and partly from the scalp; (4) in Lichen spinulosus there is no family tendency, nor does it develop at the time when ichthyosis is first noticed, while in our cases these were marked characteristics; and (5) in Lichen spinulosus the spiny lesions are not associated with xerodermia or mild ichthyosis as in our cases.

Pityriasis rubra pilaris.—The diagnosis of our case from Pityriasis rubra pilaris presented no great difficulty. In Pityriasis rubra pilaris there is, as a rule, more or less redness from inflammatory changes, there is a marked scaly keratosis of the palms and soles, scaliness of the scalp and face, and follicular plugged papules on the backs of the first and second phalanges; all these were absent in our cases. In Pityriasis rubra the characteristic acuminate lesions tend to become flattened and to increase in number, and coalesce to form confluent patches, while in our cases the lesions remained discrete.

From Lichen planus with follicular acuminate plugged lesions, Darier's disease ("Psorospermosis follicularis vegetans," "Keratosis follicularis," "Keratosis vegetans"), and from the "Keratosis follicularis contagiosa" of Brooke the differences were so striking that it is unnecessary to labour them here. In the latter connection, however, it is interesting to note that Brooke regarded Ichthyosis follicularis of Lesser and Ichthyosis sebacea cornea of Wilson (possibly Darier's disease) as cases of Keratosis follicularis contagiosa, a term which seems to require modification.

HISTOPATHOLOGY.

A small piece of tissue including several of the follicular horny papules was excised from the neck (Case 2) for examination. It was fixed and hardened in alcohol, and embedded in paraffin. The sections were stained in various ways to demonstrate the changes in the epidermis, such as by saffranin and water-blue, hæmatoxylin, polychrome methylene blue (see Fig. 2).

Under the low power the most noticeable features in the sections were the presence of the dilated funnels of the pilo-sebaceous follicles, filled with horny plugs, extending up above the level of the skin and forming acuminate papules. The lower two thirds of the follicle was atrophied, and in some of them pieces of atrophied hairs were noted. The sebaceous glands were absent. The epidermis between the follicles showed slight hyperkeratosis, the Malpighian layer was thin and the interpapillary processes flattened out. The underlying corium presented a corresponding flattening of the papillary layer, a slight dilatation of the blood-vessels in the neighbourhood of the follicles, and an infiltration of small cells about the capillaries and the follicle. The sweat-coils were present. Except in the immediate neighbourhood of the follicles the corium appeared to be unaffected.

With a $\frac{1}{8}$ objective (see Fig. 3) the following details were observed :

Fig. 2.

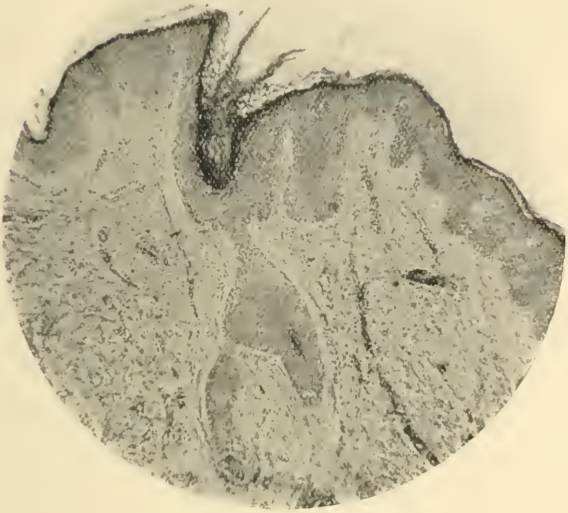
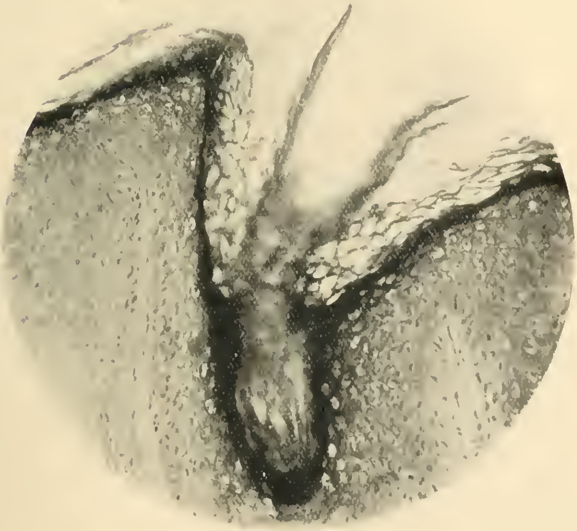


Fig. 3.



The horny plug consisted of a dense central portion, occasionally like a cell-nest, and a peripheral part with the structure of a loose horny network and a tendency to concentric arrangement. The stratum granulosum was well-marked, and could be detected dipping down in the epidermis of the funnel of the follicle. The lower two thirds of the follicle was much atrophied and the sebaceous glands were absent. In the intervening epidermis the basal layer was well-defined, the prickle-cell layer was defective in so far that there appeared to be fewer rows of cells than normally, the stratum granulosum was present, and the stratum corneum showed thickening in the form of a loose keratotic network. Nuclei were not detected in the horn-cells, and there was no suggestion of parakeratosis in the stratum corneum secondary to inflammatory changes in the corium.

The cellular infiltration in the corium was formative in character and consisted of small, roundish, oval or spindle-shaped connective-tissue cells, and there were no plasma-cells or giant-cells. The connective-tissue fibres were normal around the follicles, and showed no tendency to be rarefied as they generally are in inflammatory processes, nor were the interfibrillary lymphatic spaces dilated. The elastic tissue seemed to be healthy.

From the histological examination it seemed to me that the primary change was in the epidermis, and that it consisted essentially of a process of hyperkeratosis, not only affecting the funnels of the follicles but the intervening skin as well, which led to the formation of a horny network over the epidermis similar to that which formed the peripheral part of the horny plug. The thinning of the underlying prickle-cell layer and the flattening of the interpapillary processes taken in conjunction with the type of hyperkeratosis, which was not of the coherent dense type of ordinary hyperkeratosis but loose and tending to desquamate, suggested a mild ichthyotic process. The atrophy of the lower parts of the follicles and the destruction of the hairs seemed to be simply the result of mechanical pressure and hindrance to growth, due to the plugging of the funnel of the follicle. The slightly dilated blood-vessels about the follicles and the formative cellular infiltration around them suggested, on the other hand, a mild inflammatory process. But considering the slight degree of it and the absence of any suggestion of its effect on the epidermis in the form of parakeratosis, it seemed that it might readily be regarded as secondary to the plug in the follicle acting as a foreign body and readily exposed to friction. This view was borne out by the fact that while not only the epidermis of the mouth of the follicle was abnormal but also that of the intervening skin, the inflammatory process was entirely confined to the neighbourhood of the follicle.

Of the various descriptions which I have been able to find of the histology of conditions allied to those there are none which wholly correspond.

Unna,* who gives a detailed description of "Keratosis suprafollicularis" which has certain features in common with the above description, found similar changes in the hair-follicle but no abnormality or general thickening of the horny layer of the interfollicular epidermis, and the plug was smaller and only occupied the mouth of the follicle like a cap. On the other hand he noted not only a perifollicular but an interfollicular inflammatory infiltration. He regarded the condition from the histological evidence as a chronic inflammatory condition leading to supra-follicular changes, and as being quite distinct from ichthyosis.

Lemoine,† quoted by Brocq, in his description of Keratosis pilaris, observed an inflammatory infiltration in the corium, especially localised near the follicles, atrophy of the papillary layer, and a thickening of the epidermis. The granular layer was little marked, the horny layer was thickened and desquamating. The most marked changes occurred about the follicle, the lower portion of which, with the sebaceous glands, was atrophied. From the histological examination Lemoine regarded the condition as an inflammatory one primarily involving the follicles.

Giovannini‡ gives a detailed description of the histology of twenty-five cases. He found the most marked changes about the follicles, the mouths of which showed a superficial horny cap or plug and the funnel was dilated, and the lower portion in some cases was much diminished. The sebaceous glands were rudimentary and absent. The hairs were crumpled up beneath the plug. In places the presence of the plug and the pressure exerted by the coiled-up hair had dilated the follicle in such a manner as to form a cystic structure; in other situations the follicles were completely destroyed and replaced by slight depressions in the epidermis, filled up with a horny plug. There were no abnormal changes in the interfollicular epidermis. There was an inflammatory infiltration around some of the follicles made up of round cells, epithelioid cells, and a few giant-cells, but it was most inconstant, and insufficient to warrant the assumption that the inflammation is the primary disturbance.

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* Unna, *Histopathology*, Walker's translation, 1896, p. 287.

† Lemoine, *Ann. de Derm. et de Syph.*, 1890, p. 224.

‡ Giovannini, *Arch. f. Derm. u. Syph.*, 1902. lxiii, p. 163.

The chief point at issue in these descriptions and the one which most concerns our cases is whether or not the affection is primarily an inflammatory condition, or whether the evidences of an inflammatory process which do occur are simply secondary to the state of the hair-follicles and the epidermis. In our case the evidence in favour of the affection being non-inflammatory was very strong. In the description by Unna and Lemoine of Keratosis supra-follicularis (Keratosis pilaris) the conclusion arrived at was that they were inflammatory in origin.

SUMMARY.

(1) A consideration of the history, clinical features, and histopathology of our cases went to show that they belonged to the category of ichthyosis, and indicated the name "Ichthyosis follicularis" as being the most appropriate.

(2) That while presenting many features in common with Keratosis pilaris of Brocq (Keratosis supra-follicularis of Unna), they differed from that affection in being non-inflammatory in origin.

NOMENCLATURE OF THE FOLLICULAR DISEASES IN WHICH HORNY SPINES OR PLUGS OCCUR.

In order to simplify the study of the subject I attempted to draw up a table of the different follicular diseases with which horny spines or plugs are associated. In this I was much assisted by the papers of Brocq,* Giovannini,† Adamson,‡ and Lewandowsky.§ In spite of the fact that there are probably inaccuracies in it owing to the difficulty of obtaining certain of the original descriptions, I venture to append it here as it may be of some service to others working at this subject.

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* Brocq, "Keratosis pilaris," *Ann. de Derm. et de Syph.*, 1890, p. 25.

† Giovannini, "Keratosis pilaris: Histology," *Arch. f. Derm. u. Syph.*, 1902, lxiii, p. 163.

‡ Adamson, "Lichen pilaris s. spinulosus," *Brit. Journ. Derm.*, 1908, xviii, p. 39.

§ Lewandowsky, "Lichen spinulosus," *Arch. f. Derm. u. Syph.*, 1905, lxxiii, p. 343.

A. *Diseases in which Spines or Horny Plugs occasionally occur, but are not a Characteristic Feature.*

(1) Lichen acuminatus:
    Syn. (*a*) Lichen ruber (Hebra), certain cases.
    (*b*) Lichen ruber acuminatus (Kaposi).
    (*c*) Pityriasis rubra pilaris (Brocq) ?
(2) Lichen planus:
    Syn. Lichen plano-pilaris (Pringle).
(3) Lichen scrofulosorum:
    Syn. (*a*) Folliculitis scrofulosorum (Unna).
    (*b*) Lichen scrofulosus (Kaposi).
    (*c*) Scrofulide cornée (Hardy).
(4) Seborrhoic dermatitis.
(5) Syphilide, miliary follicular.

B. *Diseases in which Horny Plugs or Spines are a Characteristic Feature.*

(1) Acné keratique (Tenneson) ?
(2) Acne keratosa (Radcliffe-Crocker).
(3) Acne vulgaris, comedones.
(4) Keratosis follicularis contagiosa (Brooke):
    Clinically somewhat resembles Darier's disease, but histologically psorosperm bodies could not be found by Brooke or Unna.
(5) Keratosis pilaris (Brocq):
    Syn. (*a*) Cacotrophia folliculorum (Tilbury Fox).
    (*b*) Folliculitis rubra (Wilson).
    (*c*) Keratosis follicularis (Kaposi).
    (*d*) Keratosis supra-follicularis (Unna).
    (*e*) Lichen pilaris (Bazin).
    (*f*) Ulerythema ophryogenes (Taenzer) ?
    Closely allied if not synonymous:
    (*a*) Follicular xeroderma (Liveing).
    (*b*) Ichthyose ansérine des scrofuleux (Lemoine).

(*c*) Ichthyosis cornea (Hardy).
(*d*) Ichthyosis follicularis (Lesser).
(*e*) Pityriasis pilaris (Hardy).
(*f*) Xérodermie pilaire (Thibierge).
(*g*) Xérodermie pilaire érythémateuse (Besnier).

(6) Lichen pilaris seu spinulosus (Devergie).
Syn. (*a*) Acné cornée (Leloir, Vidal).
(*b*) Acné cornée en aires (Hallopeau).
(*c*) Acné sébacée cornée (Guibout).
(*d*) Folliculitis setosa (Wilson).
(*e*) Keratosis follicularis spinulosa (Unna).
(*f*) Kératose folliculaire (Type de Brooke) (Barbe).
(*g*) Kératose pilaire engainante (Audry).

(7) Psorospermosis follicularis vegetans (Darier).
Syn. (*a*) Ichthyosis sebacea cornea (Wilson).
(*b*) Ichthyose noire cornée (Boretta model No. 4) ?
(*c*) Keratosis follicularis (Morrow, Bowen).
(*d*) Keratosis vegetans (Radcliffe-Crocker).

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, May 20th, at 5 p.m., Dr. H. RADCLIFFE-CROCKER, President, in the Chair.

Instead of the usual demonstration of cases, at the invitation of the Council of the Section an address was given by Dr. LOUIS WICKHAM, Director of the Radium Institute of Paris, on "The Therapeutic Application of Radium." The meeting was largely attended by the members of the Dermatological Section and other Fellows of the Society, and, owing to the exceptional general interest of the lecture, at the invitation of the Council the Lord and Lady Mayoress of London were present.

In opening the meeting the President referred to the great loss which dermatology had sustained by the death of M. Besnier, and called upon the members of the Section to honour the memory of the great French dermatologist by rising in their seats, a fitting tribute which was duly paid.

In his address, which was delivered in English, Dr. Wickham described the effect of radium on the skin and on different pathological cutaneous conditions. He referred specially to its specific action in contra-distinction to its power of destruction. He discussed the different rays which are given out by radium, and their respective powers of penetration. A series of lantern slides were demonstrated which showed the curative effect of radium on such conditions as lichenoid eczema, Acne keloid, angiomata, rodent ulcer, and epitheliomata. In a short paper which was read by Dr. A. Whitfield, the lecturer described certain encouraging results which had been obtained in the treatment of cancer of the breast by radium, in which only the most penetrating rays were employed (*rayons surpénétrants*). This important lecture will be published *in extenso* in the next issue of the Journal.

CURRENT LITERATURE.

TRADE CANCERS. Ludwig Zweig. (*Derm. Zeitschr.*, 1909, xvi, p. 2.)

It has long been known that individuals whose occupations or habits expose them to certain kinds of chemical irritation to the skin are liable to the formation of warty excrescences, which in process of time take on the characters of carcinoma. The history of these "trade cancers" dates from the year 1775, when Percival Pott first described the scrotal cancer to which in former times chimney-sweeps frequently fell victims. Numerous writers since that year have confirmed and extended his observations. Volkmann, for example, found that workers in peat-tar and paraffin were liable to a similar disease, and the cancer of the lip and tongue of tobacco smokers may also be placed in the same category. In typical cases the course of the disease is similar whatever be the exciting cause. There is an early skin-eruption, either acneiform or pustular, or papular, accompanied by severe pruritus. The skin becomes dry, pigmented, and thickened, and small warty growths appear. If now a change of occupation be sought, these warty growths may remain stationary or retrogress; if, however, the patient continues to expose himself to the same deleterious influences the warts increase, ulcerate, and finally take on the characters of carcinomata.

Up to a recent date all the cases recorded had been among workers in peat-tar and paraffin, none in lamp-black or coal-tar. The author of this paper, however, now publishes three cases occurring in workers in coal-tar. The first two, who were persuaded in time to change their calling, after removal of their warty growths remained healthy; the third, however, who persisted too long in his harmful occupation, died of the disease. He developed first warts on his face and scrotum (which were removed and shown by microscopic examination to be malignant), and subsequently a secondary tumour of the upper jaw, which was inoperable, and ultimately brought about his destruction. At the autopsy no metastases were found in the internal organs, but the structure of the tumour of the jaw showed that it was secondary to a growth arising from squamous epithelium. The chief peculiarities of this case are: the situation of the growths on the face (the position usually selected being the scrotum), and the rapid course of the disease. The patient was only 29 years old when he died.

In discussing the case Dr. Zweig describes some interesting work by Bernhard Fischer, of Bonn, who, like many others, attempted to produce carcinomata artificially. He injected a saturated solution of Sharlach-red in olive oil round and into the ear-cartilage of rabbits, causing a separation of the skin from the underlying structures. He obtained not only inflammatory reaction but also a thickening of the granular layer with cell-nests and ingrowing strands of epithelium, which sometimes pierced the ear cartilage itself, and before the advance of which hair-follicles and glands disappeared. Further, atypical mitoses were present. This picture is very similar to that found in a squamous-celled epithelioma of the skin. Fischer ascribes these changes to a chemotactic action of the Sharlach-red in oil solution. The condition differs, however, from that found in an epithelioma in this important point, *i. e.* that these changes occur only where the oil has penetrated and never extend further. Is the action of the irritant in these cases of cancer of occupation analogous to that of the oil used in Fischer's work, only acting for a very much longer time?

As to the prophylaxis to be employed by workers in these dangerous trades Zweig points out that the evil effects occur only as the result of long and intimate contact of the injurious substance with the skin; he therefore advises frequent and thorough ablutions. It is noteworthy that with the growth of modern habits of hygiene this variety of carcinoma has become far less common than it was. If, notwithstanding these precautions, warts appear, the worker must at all costs seek another calling.

H. D.

CANCER EN CUIRASSE (VELPEAU). S. POLLITZER. (*Journ. of Cut. Dis.*, April, 1909.)

THE author, in describing this uncommon phase of cancer, points out that it is confused sometimes with other forms of infiltrating cancer of the breast, such as the miliary carcinosis or *squirre disseminée* and Velpeau's *cancer en plaque*. Besnier and Rodman says it may commence in the skin of the thoracic wall. There is a want of agreement also as to the implication of the axillary glands and the degree of malignancy.

Pollitzer's case was in a large, stout, healthy looking woman, nearly 70 years old, whose eldest son died, aged 27 years, of cancer of the liver. The trouble commenced with widespread itching, which continued, and in two years the skin of the greater part of the trunk, front and back, became vivid red in colour, firm and almost incompressible, sclerodermatous in appearance, dotted with small lichenoid papules and large deep nodules, while over the sternum it assumed a cicatricial appearance; the breasts increased in size, one of them subsequently contracting. There were no palpable maxillary or other lymphatic glands, and no distinct mammary tumour. The disease was steadily progressive. She died three years after the beginning of the disease, cachectic and enfeebled, but without obvious signs of visceral metastases. An autopsy was unobtainable.

Histological examination was made of material obtained from the border of a bright red infiltrated patch, whose surface presented a number of small lichenoid papules. Remarkably little evidence of change in the cutis was observed, and practically no sign of inflammatory reaction. The entire cutis was normal, except for one special change. The sole change in most places was the great dilatation of lymph-vessels, especially in the upper cutis and subpapillary plexus. They were distended with cancer-cells, some of which had apparently escaped the lymph-vessels generally in close proximity. The cancer-cells were large, of the glandular type, and many resembled those characterising *careinoma gigantocellulairè*. The picture formed a striking contrast to the common forms of infiltrating cancer. The degenerative changes in the cancer-walls were striking, and were evidenced by large vacuoles. Why the cancerous invasion should remain practically localised in the lymph-vessels remains a mystery.

The lichenoid papules were circumscribed areas of hypernutrition due to blocking of the underlying lymphatics. The erythema was a secondary or reflex process, probably due to the action of toxins on the related vaso-motor nerves. The induration may be ascribed to the cancerous infiltration. The cutaneous nodes were small tumours developed at least in large part from the escaped cancer-cells.

Pollitzer does not agree with Handley's description of *cancer en cuirasse* as Pachydermia carcinomatosa. There was no evidence of connective-tissue increase.

This paper has some interesting illustrations.

T. C. F.

CHEILITIS GLANDULARIS APOSTEMATOSA OF R. VOLKMANN.

R. L. Sutton. (*Journ. of Cut. Dis.*, April, 1909.)

The author, before recording a tenth case, reviews the literature, viz. Volkmann's five cases and Purdon's four cases, and refers to Galloway's and Stelwagon's chronic exfoliating inflammation of the lower lip, Besnier and Doyon's *eczema exfoliant des levres*, and those of Fordyce and Jamieson, and lastly the disease described by Baelz.

Volkmann believed the disease he described to be due to catarrhal inflammation of the labial glands. The entire lower lip became gradually and painlessly swollen, hard and firm, with some hyperæmia and enlarged mucous glands with dilated follicular openings exuding on pressure a glistening secretion. In three cases abscess formation occurred. The condition was associated with buccal and pharyngeal catarrhal inflammation.

The author's case was in a man, aged 30 years, whose father had chronic dysentery and a lip condition like that of the son. In the son the lower lip was noticed to be thickened at eight years of age, and at times covered with tenacious mucus. Later, dilated follicular openings were seen. There was also a pharyngeal and buccal catarrhal inflammation. The lip was treated with six exposures of four minutes each, at bi-weekly intervals, with a soft tube at 15 cm. distance and very small amount of current. The case progressed favourably.

T. C. F.

THE TREATMENT OF VERRUCÆ PLANTARES. R. L. Sutton. (*Journ. of Cut. Dis.*, April, 1909.)

Plantar warts, as described by Dubreuilh and Bowen, are extremely resistant to ordinary therapeutic measures, and excision and the actual cautery seem most satisfactory. The author practised in four cases freezing the warts with Pusey's carbon dioxide snow, using a pencil of the substance to the centre of the wart for thirty to sixty seconds with pressure. After thawing, a second application with a smaller pencil is made for thirty seconds. Afterwards boric acid powder was applied. The operation does not need an anæsthetic. The results were excellent.

T. C. F.

BLASTOMYCOSIS CUTIS; REPORT OF TWO CASES, ONE BECOMING SYSTEMIC, WITH FATAL TERMINATION. Edwin H. Shields. (*Journ. of Cut. Dis.*, April, 1909.) (Illustrated.)

Case 1.—In a male, aged 45 years, a "boil" developed on the right cheek was pricked with a needle, but did not heal. Another "boil" behaved similarly on the left cheek. They left hard indurated patches, which extended. Then a painless "pimple" formed on the left arm, forearm, and left thigh, then on right buttock, which became a boil and discharged, but did not heal. In November, 1907, he was weak and anæmic. On each cheek was a large, red, irregular raised lesion, of two inches diameter, which became a fungating mass. On the arm, forearm, and thigh were scaly, red, elevated patches. On the buttock was a large papillomatous, foul-smelling mass, which was curetted and cauterised, but re-grew. The disease progressed, and the rectum became involved, and the patient lost weight and had fever and albuminuria. The patient died in June, 1908. Large doses of potassium iodide seemed ineffectual. At a late stage the author says he found blastomyces in the pus. No autopsy is recorded.

Case 2.—A male, aged 53 years, had a carbuncle on his back in December, 1907, which discharged pus under treatment and never healed, and formed a red patch with small abscesses and papules. A month later an enlarging red spot formed on the right cheek and became warty. Then followed a similar lesion on the nose, extending to the upper lip. The author says he found blastomycetes in the lesion on the back.

T. C. F.

A CASE OF "CLOU DE BISKRA." Albert Billet. (*Bull. de la Soc. de Pathologie Exotique*, Paris, tome ii, No. 2, 1909.)

The patient shown to the above Society was a soldier from Biskra, who had returned to Paris November 15th. He had five "sores"—two on the lower part of right arm, one on the right forearm, and one on the left, and another above the left malleolus. All presented very similar features: papulo-nodular in aspect, roundish-oval in shape, 2 to 3 cm. long by 2 cm. wide. The borders were violaceous, more or less circular, raised a few millimetres above the level of surrounding healthy skin. The central parts were somewhat depressed, ulcerated, sanious, granulating, forming crusts when the parts were not kept moist by means of dressings. The five lesions appeared about the same time, on the right upper limb on November 25th, 1908, followed by those on the left forearm and right leg early in January, 1909, viz. ten to fifteen days after leaving Algeria. The lesions commenced as small papules about the size of a large pin-head, gradually increasing in size, and reaching their present dimensions in about a fortnight. For the last month they had remained more or less stationary, with a tendency to involution.

The true nature of the sores, which might have been taken for syphilitic or tuberculous lesions, was shown by microscopical examination. *Leishmania tropica* was fairly readily found, though in small numbers, in smears from the granulations. They were found as is usual in the large macro-phagocytes, some of the latter containing twenty or more parasites. Some of the isolated parasites distinctly showed the characteristic structure: small oval bodies, with a double nuclear mass, staining dark red with Giemsa, the larger portion being rounded, the smaller being situated peripherally, and mostly linear in shape.

As to the "clou de Biskra," the specific *Leishmania* was first demonstrated by Mesnil in 1904; and later by Boigey in 1907 at Biskra itself, and in almost every case. The patient shown had been in the Biskra barracks named "Caserne de la Salpêtrière," where Boigey had found the greatest number of Biskra sores, viz. thirty-eight out of a total of fifty-four.

Billet's examination of the blood gave the following results:

(1) In the blood from the congested zone at the periphery of the sores:

	Per cent.
Mononuclears (large 22, intermediate 23, small 16 per cent.)	61
Polynuclear neutrophiles	37
Eosinophiles	2
	100

(2) In the blood of finger:

	Per cent.
Mononuclears (large 14, intermediate 11, small 20 per cent.)	45
Polynuclear neutrophiles	54
Eosinophiles	1
	100

thus confirming what Nattan-Larrier, Nicolle, and others have considered a characteristic, viz. a marked mononucleosis.

Oriental sore involutes spontaneously, but it takes a long time, about a year or more, hence the name given to it in Algeria, Asia Minor, and the Caucasus: the "one-year" disease.

Benoit, of Gafsa, has found the following method of treatment give good results (successful in twenty-one cases, and confirmed since by Nicolle and Sicre in another case): (1) After drying surface of the sore, dredge with permanganate of potash finely powdered; (2) In eight or ten days remove crust formed, and paint the granulations with a solution of methylene blue (1 in 10), whose selective action on the protozoa is well known.

Billet proposes to adopt this method in his case and to report the result.

G. P.

[*Note.*—When I was in Biskra a few years ago, thanks to an introduction of my friend, Dr. A. Billet, then stationed at Constantine, I saw several French soldiers suffering from the complaint. The lesions were mostly multiple and about the extremities, chiefly the upper ones. In the streets of Biskra I met an Italian boy with five "boutons de Biskra" about the face. The lesions had been present five months, but the patient was quite indifferent about them, and told me he did nothing for them. They were of the dry-crusted variety, the crusts being somewhat limpet-shaped in appearance.—G. P.]

REVIEW.

Severest Anæmias.*

The subject of the anæmias is one of considerable, though indirect, interest to dermatologists in view of the pigmentary changes and the glossitic lesions which so frequently occur in association with them, and consequently it will not be inappropriate to review briefly in this Journal the most recent work which has been published on the subject, namely, vol. i of the *Severest Anæmias*, by William Hunter.

Now and then in the flow of medical literature which is being constantly poured forth some work appears which arrests attention on account of the importance of the subject with which it deals, the experience of the author, or the forcefulness of the writing. To this category belongs the volume before us. It is the result of twenty years of chemical, etiological, and pathological study of the anæmias, carried out in the wards, the post-mortem room, and the laboratory, and embodies a wide knowledge and full appreciation of the work of others. In consequence the criticisms and conclusions contained in it carry with them the impress of conviction based on personal observation.

The subject of the anæmias forms one of the most interesting chapters in the history of modern medicine, and it is one of the most confusing. This confusion has been partly due to an involved nomenclature and partly to the exaggerated importance, especially from a diagnostic point of view, which has been given to the microscopical blood-changes in the different members of the group, at the expense of the more important considerations of etiology. The morbid effects on the blood have been studied and their significance magnified, while the underlying causes responsible for them have not attracted their due share of attention. It is the old story of gazing at the ashes in the hope of so finding out what caused the fire. So much has this been the case that in the average medical mind the anæmias have been pictured and thought of almost entirely in terms of normoblasts, megaloblasts, poikilocytes, and percentages of blood-cells and hæmoglobin. The work of William Hunter has done much to dispel this confusion by insisting on the importance of the etiological and clinical features, and of relegating the blood changes to their proper position among the objective symptoms. He has shown that the essential changes in the severe anæmias are not the blood changes, but the infective processes which underlie these changes.

In connection with the "severest anæmias," with which this volume deals in a general way, the history goes back to 1822, when Combe reported a case of an idiopathic form of severe anæmia, which corresponded to the affection subsequently described in detail by Addison under the heading of "idiopathic anæmia." Had Addison's view that this affection was an entity been adhered to many years of confusion would have been avoided. This was not the case, however, for about 1870 Biermer, of Zurich, described his "progressive pernicious anæmia," and under this name he included a group of severe anæmias, and relegated the Addisonian anæmias to a subordinate position in the group, no longer regarding it as a disease *sui generis*, but simply as a collection of symptoms. Then arose a further controversial period in the history of the severe anæmias, when William Hunter in 1888 described the Addisonian anæmia as a "specific anæmia of hæmolytic nature, gastro-intestinal site, toxic cause, and infective origin," and Ehrlich combated this view and considered it to be non-specific and a form of myelogenous (megoblastic) anæmia, a conclusion which was based on the microscopical changes in the blood associated with it.

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* *Severest Anæmias.* By William Hunter, M.D., F.R.C.P. Vol. I. Macmillan and Co., Ltd., 1909. Price 10*s*. nett.

Hunter's conclusions as stated in this volume may be summarised briefly as follows: The "idiopathic anæmia" of Addison or "Addisonian anæmia" is an entity. It is a specific infective disease in the same sense as typhoid fever is, but unlike typhoid its causal agent is unknown. It is associated with definite infective symptoms, such as glossitis and gastric and intestinal lesions, which indicate that the seat of infection is in the majority of cases in the alimentary tract. The blood changes which occur in the disease vary considerably in different cases according to the severity of the infection, and do not form an absolute criterion on which to base a differential diagnosis. Anæmia is only one symptom of the disease, of which other symptoms are equally characteristic, namely, the hæmolytic, gastro-intestinal, and nervous disturbances such as paræsthesias and degeneration of the cord. The other forms of severe anæmia, collected by Biermer under the heading of "progressive pernicious anæmia," he regards as belonging to a totally different category, and as being "septic anæmias" of varying degrees of intensity, according to the virulence of the infection, but all of known septic origin. He lays special emphasis on the power of recovery presented even by the severest forms—if the infective lesions are removed. He definitely abandons the use of the word "pernicious" in connection with either "Addisonian anæmias" or the "septic anæmias." This misleading term he regards as being of no greater significance than the word "continuous" as applied to fevers, and as its use has added immeasurably to the confusion connected with this group of diseases, and since it is not only inappropriate as applied to diseases from which recovery may take place, but unnecessarily cruel to the patient, he considers that it should be abandoned.

The volume is illustrated by a number of excellent photographs of naked-eye and microscopical specimens showing the changes in the tongue and intestinal mucosa which occur in "Addison's anæmia," and a valuable series of tables presenting in a schematic form the salient features in the text is appended. In volume ii the clinical, diagnostic, and prognostic facts of this group of diseases will be dealt with, and we await its publication with interest.

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THE BRITISH
JOURNAL OF DERMATOLOGY.

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THE THERAPEUTIC APPLICATION OF RADIUM.*

By LOUIS WICKHAM, M.D.
(From the Radium Institute, Paris.)

As a rule, when speaking to a doctor about radium as a means of curing disease, in his mind there arises the idea of a burn, of an inflammatory reaction, or of a destruction of tissues. In fact, after the discovery of radium, when the effects of its radiations were tested on the tissues, revulsion, inflammation, and destruction were generally produced; then it was remarked that these reactions were followed by repair which was very good in appearance; thence the conclusion was arrived at that radium might in this way be considered as a very precious therapeutic agent. This was a perfectly right deduction, and now with very powerful apparatus of large dimensions it is possible, by the method of destruction, to obtain good results on superficial lesions, not only on small ones as hitherto, but also on those of greater size.

This destructive power of radium is not going to be the subject of my lecture; nevertheless, I should like, before proceeding further, to show you five lantern-projections to illustrate this point, without discussing the question of the doses employed.

Five Projections to Illustrate the Destructive Power of Radium.

(1) A case of congenital Ichthyosis zoniformis of the neck. After

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* This lecture was delivered at the Dermatological Section of the Royal Society of Medicine, on May 20th, 1909.

destruction the skin healed in about six weeks, and still remains in a satisfactory condition.

(2) A pigmentary mole of the cheek and the nose; the tumour was about 1½ cm. high. After six months' treatment it has disappeared, the skin is level, but unfortunately in some places there is too much discoloration and in others some pigmentation is left.

(3) A case of vascular nævus—that is to say, a port-wine mark. It was shown to the Academy of Medicine before treatment on October 8th, 1907 (when Dr. Degrais and I made our communication there on angiomata), as a case that would be likely to show favourable results. It is now about a year since the treatment was finished.

Now I will show you two cases of cancer treated also by destructive action:

(4) Six hours' application of one strong apparatus gave the result that you see in this projection.

(5) As you see, this cancer of the temple was of large size, and the treatment had to be rather long—more than a year. The patient was treated in the wards of Dr. De Beurmann, in St. Louis Hospital, under our care. The skin is healed, and you can see at the same time that the general health of the patient is far better. The healing of the tissues is not so perfect as is shown on the photograph, but nevertheless there is no sign of relapse.

I could show you a considerable number of similar results in different patients and in different diseases. Therefore this question of the therapeutic action of radium by the method of *destruction* is of great interest, and is in itself worthy of a lecture. It is always easy to destroy tissue, however, but it is very difficult to know the exact point at which the destruction should be stopped. You will understand, then, that in order to obtain good results the administration of the doses of radium is a most important and at the same time complex subject. But the question of dosage I do not intend to discuss in my communication to-day.

I am of opinion that, from the therapeutic standpoint, radium has a much higher mission and a far greater sphere of usefulness than its destructive effects. Its value and its utility consist rather in its *specific action* in regard to special diseases—that is to say, its elective action—the radiations having a special action on some diseased cells which is perfectly different from its action on normal cells. The radiations are, in fact, able to cure some diseased tissues without either irritating or inflaming them *if the doses are rightly administered.* In other words, under the influence of the radiations certain diseased cells can be modified, deviated from their morbid process, and transformed towards recovery; and it is of this point in particular, and more especially with regard to its influence on deep cancer, that I am going to speak to you to-day.

This selective action is not exercised upon every kind of diseased tissues; amongst those which are influenced by it we recognise four principal morbid groups. They are: *Eczema, angiomata, keloids, cancers.* Before showing you some examples of each group I must explain the practical methods employed to utilise the radiations and obtain these results, and in order to make myself intelligible I must refer to a few questions of physics. You know that the radiations of radium consist of different rays, which are called α, β, and γ rays. These rays have different qualities, which I have not the time to describe in detail, but it gives me much pleasure to recall that their differentiation was the work of your great physicist, Rutherford.

The chief point with which we are concerned at present is to explain the penetrating power of these rays. On the board I have drawn the sketch of a tissue. The three arrows that you see there represent—this one the α-rays, this one the β-rays, and that the γ-rays. As you can see, the α do not penetrate far. They are directly stopped and absorbed by the first layer of the tissues. The β-rays pass farther, and the γ very much farther. If we consider the β alone we can see that they are composed of three sorts of rays: these which have very weak penetrating power, and are named soft β; some others, more penetrating, are the middle β; and a few others, very penetrating and practically confounding in a certain measure their action with γ, are the hard β. You have now seen that, firstly, the rays can penetrate the tissues, and, secondly, that their power to penetrate varies. The γ-rays alone have reached the deep tissues, and that shows that the superficial tissues have cut off the less penetrating α and β-rays.

You can easily understand now that if we place different screens between the radium and skin we shall be able to filter the rays in different ways in proportion to the density of the screen.

I will now give you a visible proof of the powers of the rays to pass through different sorts of screens. This is a sheet of platinocyanide of barium, which has the property of shining under the influence of different energies. If I place this apparatus, which contains 60 mgrm. of pure radium spread on a surface 12 cm. square behind that sheet you will see that it causes it to become luminous. When I interpose between the apparatus and the sheet different sorts of screens, progressively thicker, you will see that the shining persists, and this is proof that the rays can penetrate metallic substances.

You have now seen the mechanism of filtration. By interposing metallic screens of varying thickness and density a smaller or greater number of rays are cut off. Those which have passed through these bodies are modified in two ways: they are diminished in quantity and the relative proportion of penetrating rays is increased. The α and soft β-rays have been entirely absorbed by the light screens, the soft β and medium β radiation by thicker screens, and so on. If they are diminished in quantity by filtration, it is worth while knowing in what proportion they exist after that process.

The diagram will show you the different proportion of rays which composes the radiations coming from unprotected radium and of varnished radium. In the first case we find 90 per cent. of α-rays, 9 per cent. of β, 1 per cent. of γ. When the radium salt is melted in the varnish as it is in our apparatus the rays are changed in proportion, because the varnish absorbs the weaker, and we find only 5 per cent. to 10 per cent. α, 80 per cent. to 90 per cent. β, and 5 per cent. to 10 per cent. γ.

We can easily understand that if we place different metallic screens between radium and the skin, the radiations which come through do not contain either any more α or any more soft β, fewer middle β, and, when the screen is of the thickness of 1 mm. of lead, the radiations contain about 80 per cent. of γ for 20 per cent. of hard β.

It was very important to find a method capable of showing us the strength and composition of the radiations after filtration through different screens of varying density. Monsieur Beaudoin, physicist, has been studying this question, and has arrived at a conclusion, described by the graphic curve that we call Beaudoin's curve, which enables the radiation of any apparatus to be physically studied according to its modifications after filtration. Here is the example of the analysis of the radiation of one of our apparatuses through lead.

Beaudoin's Curve: Its Explanation.

This curve shows many interesting points, but I wish to insist on *one point*, which plays an important *rôle* in practice. On the tracing which I show you notice that the curve falls very rapidly at the first screens; and when the radiation crosses lead and is composed of only hard β and γ rays the curve bends very slightly; we can increase the thickness of the screens a good deal and the radiation is but little diminished. The reason of this is that, arrived at a certain point of filtration, the rays which have passed the filter have considerable penetrating power, and that is why a very slight difference in the curve exists, whether the filtering screen of lead is 1 mm. or 5 mm. in thickness. These radiations which have been filtered in the way described I have named *rayonnements surpénétrants*; they deserve a special title because they have special qualities.

I do not wish to enlarge further on the question of physics. I have said enough to explain to you that by filtration, firstly, it is possible to obtain rays endowed with considerable penetrating power, and, secondly, that the easily absorbable rays are cut off. Let us return to *practical* questions and see what advantages we can draw from the knowledge we now have of the rays. But first let me describe to you the apparatus, which may be of a great many different forms. The three principal are: Firstly, cylindrical or tubular; secondly, flat, bendable, or plastic; thirdly, flat, unbendable on a metallic base.

The one I now show you is on metal. The radium salt is melted with a varnish liquid at a very high temperature; in the process of cooling it becomes very hard and solid, like enamel. This apparatus may be employed naked, if the full radiations are needed—that is to say, the weak and strong penetrating rays together. It is nevertheless always better, for hygienic purposes, to protect the varnish by a sheet of indiarubber. The same apparatus may be covered by the series of screens of which we have spoken, and you can easily imagine what a large number of different screens may be interposed.

I must now tell you how we proceed when we use the screens. Firstly, we cover the apparatus with indiarubber, to protect materially the varnish from the hard contact of the screens. Then comes the screen (which must cover the varnish), which has narrow sides resembling the lid of a box, in order to prevent rays from escaping and thus irritating surrounding tissues. After this come ten to twenty sheets of paper, and the whole is covered, tied up and fixed by a bandage of indiarubber. This paper covering and the last sheet of indiarubber are very important, because when rays cross metallic screens they give birth to new rays, secondary rays, described by Saguac. These rays have a very weak power of penetration, and might irritate slightly the surface, so it is necessary to stop them, and the sheets of paper have this action.

I will now show you how to use an apparatus in order to obtain the selective action. Should all the three sorts of rays be given forth, as when the apparatus is employed naked, or should the rays be obtained after passage through screens, the result is the same as far as relates to specific action. Of course, the specific action of weak penetrating rays is exercised specially on the surface, and the specific action of *rayonnements surpénétrants* is exercised not only on the surface tissues but also in the deeper ones. To obtain the specific action and not the destructive one is a question of doses—that is to say, the duration of the applications. For example, eczema, which is so irritable a disease, can be treated even on a baby by the most powerful apparatus, and with its full strength, should the duration be no longer than one to two minutes, and be repeated in from three to four days.

I am now going to show you lantern-slides to illustrate the selective action of radium on superficial morbid disease:

(6) A very severe and rebellious case of lichenoid eczema of the neck of about seven years' standing; it had been treated by various methods without any definite results. However, two years after radium treatment there has not been any relapse.

(7) A case of keloid acne; the cure was effected a year ago and remains. From time to time some pustules of acne are seen, but are not followed with production of keloid.

(8) Another keloid. You can easily see on the right-hand photograph that the keloid which this child had on the neck has been treated; his right side has been cured in comparison to the left, which has not yet received treatment.

(9) In this case the angioma was on the lower lip, and was protruding inside the mouth. It required about six months' treat-

ment to obtain the result you see in the second photograph, where the child is shown able to shut her mouth.

(10) This angioma is one of the first that I treated. It was raised to form a tuberous mass. The lobe of the ear was doubled in size. In touching the diseased part it was felt to be fluctuating, and pulsations were visible in the whole tumour. As you can see, the lobe is now in a normal state. Nothing is left but a white mark on the surrounding parts.

(11) A man disfigured by a tuberous angioma. The little portion that you see left under the right nostril has still to be treated.

(12) This case required a year for treatment; it is now in a satisfactory condition. It is one of the more extensive cases that we had to treat.

(13) I am going to show you a series of illustrations of superficial cancers treated, like the preceding cases, by specific action, without inflammation. Here are four stages of treatment of a case of bulging cancer at intervals of twelve days. The cure was effected in thirty-five days, although at the beginning the elevation was about 2 cm.

(14) This is a case of rodent cancer, which, after the cure, left scarcely any sign of its previous presence.

(15) I will now rapidly show you six other similar cases, all of which were cured without any inflammation. The first one was on the upper part of the ear. After having been cured one year there was a slight relapse, which was cured after one application.

(16) The second had been treated without success by X-rays. It has now been cured for two years without showing any relapse.

(17) The third one is interesting because the cancer was just near the eye on the lower lid. The treatment was effected without any contraction of the lid.

(18) This case was also treated without contraction of the upper lid, although, as you can see, the cancer was of a rather severe degree.

(19) This one is bigger still. Treatment was followed by repair.

(20) I will now show you a case which is actually in the beginning of its treatment. It is such a terrible case of cancer that I do not think it possible to effect a cure, although after a month's treatment there has been a great change, and it is that change that I am going to show you. There have been applications for fifteen nights—that is,

for about 150 hours. In the fifteen following days some changes were observed, and you can see these changes in the second photograph.

You see, then, ladies and gentlemen, that this selective action can be exercised on lesions of very different nature, but what is of especial importance, and what I would wish to insist on, is that, as you saw, it is exercised on cancer. This, then—the selective action of radium—is the first point demonstrated, but until now I have purposely shown you its influence on nothing but surface lesions.

The question now arises: If radium has really a selective power, can it be utilised in the deeper tissues without irritating the surface of the skin? This is precisely what it does do. For example, a subcutaneous vascular tumour can be favourably modified without irritation of the skin's surface, and in the same way also a deep-seated cancer can be acted on.

How can this phenomenon be produced? How can this selective action be brought to bear on the deeper tissues? This is the crucial point of my communication which you will have easily followed, and which I hope to be able to make still clearer.

If you will now recall to mind what I said about the *rayonnements surpénétrants*, you will remember that they are formed of a very small number of rays, and you might ask how it is possible that such a slight quantity of rays is able to act at all; the problem is simple, and is solved by the duration of the application. Let us suppose that a radiation consisting of 1000 units, which is very weak, is composed of the most penetrating rays; this is a dose of an infinitely small quantity. If this dose is left in contact with the skin for not more than half an hour no result is obtained; if, however, it is left in contact for three hours, sufficient energy has accumulated to give a result.

To resume: to make all I have said quite clear, let us take the case of a subcutaneous cancer. We choose an apparatus which is primarily of great power; we interpose between my apparatus and the skin a filter which only allows the radiations of high penetrating power to pass, and these in very small quantity (1000 to 2000 units, for example). We leave this apparatus in position for five or six nights, and we thus accumulate a dose which is sufficient to modify the cancer.

This is the method the object of which is to dole out in small fractions doses which in the long run become considerable. This method is in perfect harmony with the legitimate fear of the physicians to act too precipitately on certain cancers. We have sometimes seen better results when the eight or ten nights on which the application of radium was made were not consecutive, but with a night's rest between each application. To illustrate this statement I will now, gentlemen, show you cases of subcutaneous cancer which were satisfactorily treated without any destruction of the skin.

PROJECTIONS TO ILLUSTRATE SELECTIVE ACTION IN THE DEEPER TISSUES.

(23) This is a case of malignant cancer which had destroyed the tissues of the skin to such an extent that the nostril was severed from the cheek. The cancer had spread inside the nostril on the mucous membrane; only external treatment was applied. We had purposed to treat the mucous membrane later, but we discovered that the inside as well as the outside lesions had been cured, showing that the rays had acted through the thickness of the nostril.

(24) In this case the cancer was penetrating the bone and extended into the brow and lower lid of the eye, under the skin. In different places some fistulæ were seen conveying matter from the deeper parts. The treatment lasted three months. The second photograph shows that the ulceration and the fistulæ have healed. There have been no signs of a relapse. The skin was not injured at any time during treatment.

(25) This was a case of glands infected by carcinoma, secondary to primary cancer of the larynx. No treatment was possible on the larynx, but fortunately the disease on that side seemed to be rather torpid. The infected glands, however, were acutely attacked by carcinoma, and the patient was suffering from a sort of strangulation. The mass was hard, even to a stony condition, and very firmly fixed; the skin was red but there was no ulceration. The treatment was conducted on the principal of "cross fire." Two radium discs were placed on the posterior surface of the tumour, under the ear; two others were placed under the chin, so that they were facing as much as possible. A fifth disc was placed directly over the surface.

The radium used was in total weight about 15 cgrm. or 150 mgrm. of pure radium spread over flat surfaces. Each of these apparatuses was covered with lead screens, so that about 5000 to 6000 units, composed entirely of the *rayonnements surpénétrants*, were given from each. Fifteen applications were made in a month, every other night, the apparatus being placed in position in the evening and allowed to remain until the next morning, that is, about ten hours each night. After the treatment was finished the case was still kept under our supervision; by degrees the base of the mass gradually became loosened. Some other places were also found to be softer. For two months no other signs were apparent except a slight irritation of the skin, but without discharge. We thought that the treatment had somewhat failed, but suddenly in the middle of the third month the tumour began to gradually diminish. The other photograph was taken five months after. As you see, there remain some infected glands, especially under the chin, and the treatment is not finished. I thought, however, the result sufficiently interesting to show you.

(26) This is the last case I am going to show you. The microscopical study made by Dr. Dominici demonstrated that it was a very severe case of epithelioma. At the apex of the tumour was an ulceration of the size of a two-shilling piece, but all the rest of the tumour was covered by the skin. It was very hard indeed, and, as in the former case, it was fixed at the base. Two infected glands under the chin were found to be enlarged. In that case the method of "cross fire" could be employed with its full value. Four apparatuses were applied, facing two and two, their positions being changed so as to gradually travel round the entire base of the tumour, but always placed in such a manner as to directly face each other. The applications were changed morning and night. The same filtration of the *rayonnements surpénétrants* was employed as in the last case. The patient had three series of fifteen days' treatment in five months. In the two last series two other apparatuses were applied—one without any filtration on the ulcerated apex; another was a small tube containing 1 cgrm. of pure radium, which was introduced inside the tumour and left there twenty-four hours. So, as you will see, the inside of the tumour was influenced by a considerable amount of radio-activity. The surface, however, was not injured. The tumour gradually disappeared, and, as you can see in the second photograph,

where the man is seen full face, scarcely anything is observable; but looking side face, signs still remain which show that complete cure is not yet obtained.

These statements which I have been able to make appear to lead us to the belief that radium may be tried as a means of relieving, to a certain extent, visceral cancers, such as cancer of the stomach, prostatic cancer, œsophageal cancer, abdominal cancer, uterine cancer. In fact, treatment in such cases has been followed by giving relief to the patient, reducing the disease, and prolonging life. But they are too few to permit me to speak of them.

We will speak only of breast cancer. We have had a sufficient number of cases of that disease to feel authorised to formulate some few conclusions about the value of the treatment. I had prepared with Dr. Degrais a paper on this subject, which was to have been read in Paris, but after receiving your very kind invitation to address you here I have reserved the first reading for you. As, however, I am not very confident of my English, and I wish it to be perfectly clear, my friend Dr. Whitfield has kindly consented to read it for me.

The Influence of Radium on Carcinoma of the Breast.

(Read for Dr. Wickham by Dr. Arthur Whitfield.)

Clinical surgery and histology have shown that the radium radiations exercise a special selective action on certain morbid cells of new formation, and also that these radiations, on account of their particularly great power of penetration (it is known that the most penetrating amongst them pass through several centimètres of lead), can act on the deep-seated tissue. Therefore it seemed interesting to attempt the application of this double property to carcinoma of the breast.

Our first trial dates from November 7th, 1907. Dr. Triboulet was attending a lady whose left breast was affected by a malignant carcinoma, and whose advanced age prevented any surgical operation. The tumour was the size of a Tangerine orange; it adhered both to the costal plane and to the skin. The nipple was retracted, and a little on the outside was an ulceration of about 2 cm. square. All around the cutaneous covering was red, the surface resembling orange peel, and ready to ulcerate. There was a gland perceptible in the arm-pit. The entire side of the thorax was the seat of sharp pain. We submitted these lesions to radium. To-day, eighteen months after, this lady is in good health, she feels no pain, and there exist no disquieting signs in the mammary and axillary regions. A mobile but torpid kernel of a fibrous consistence alone remains, which seems to be the result of the transformation of the cancer.

This was the method of procedure: The different trials of filtration that we had already undertaken before this date, with screens of various kinds—namely, wadding, aluminium-lead covered with indiarubber—had shown us the means of modifying the therapeutic value of the radiations. They must necessarily, after filtration, be composed of rays at the same time less numerous and more penetrative. This is why, in January, 1907, to act on deep ocular lesions we had decided for the first time to employ as a filter a sheet of lead, 1½ mm. thick, covered with indiarubber.

It is this same filtration, through the lead covered with indiarubber, that we used for Dr. Triboulet's patient. The applications are made by series, at intervals of one to two months, and consisted of ten to twelve daily treatments of an hour and a half each. Little by little, without any irritation of the surface, the morbid evolution was first stopped, then replaced by a process of reparation. From the month of February, 1908, the ulceration was cicatrised, the tumour had diminished in volume and was mobile at its base; the skin had regained its normal colour, the pains had completely ceased, and by degrees the signs of amelioration increased. But these results were obtained very slowly in the course of a year's treatment; afterwards, by the method that we have named "cross fire," and thanks to a better understanding of the dosage, we have succeeded in making the process of reparation more rapid. The region of the breast lends itself extremely well to the employment of this method. Two apparatuses are placed simultaneously face to face on two opposite parts so as to cross their rays.

In employing the *rayonnements surpénétrants* of an activity of 2000 to 4000 units the apparatus can be left several entire nights without irritating the surface, and in the deep-seated tissues the radioactivity is very much increased by the inter-crossing of the radiations. In certain cases we have been able to act with four apparatuses at once and so quadruple the action on the deep-seated tissues. It was in this way that we treated a patient of Dr. Montard-Martin, who was too aged to be operated on, for a malignant carcinoma on the breast which was rapidly increasing. The treatment of this case was commenced on December 11, 1908. Four apparatuses were placed simultaneously, and applications were made during the month every other night, the apparatus thus being applied in all from 160 to 180 hours, the radio-activity crossing and multiplying its energy in the deep-seated tissues. In February a fresh series of identical treatments was resumed. The retrogression followed very simply, as in the preceding case, but it has been much more rapid. To-day there is no longer any adhesion, and the volume of the tumour has very much diminished. At the end of five months there remains nothing but a mobile, hard, and torpid nodosity, which seems to clinically answer to the fibrous transformation that has recently been histologically described *à propos* of the regression of epitheliomatous neoplasms.

In another case, which in itself could have been easily operated on, but in which the patient was affected by bronchitis and asthma, and could not bear an anæsthetic, the radium radiations have been utilised in the same way; the retrogression of two thirds of the tumour has been obtained in three months.

Lesions of other kinds can also be influenced by radium. For example, a tumour in the breast occurring in a patient, aged 33 years, an English lady, has recently been treated under the following conditions: In December, 1907, the right breast had been operated upon by Professor Berger, in Paris, and histologically studied; it was found to be an adeno-fibroma with production of cysts. A year after the left breast presented exactly the same symptoms as those which in the right had necessitated the operation. A large mobile, subcutaneous tumour with very sharp pains in the surrounding parts was present. Two English surgeons who were consulted declared an operation was urgent. The patient refused, and as she was living in Paris she came to the Institute. After two months of treatment by the "cross fire" method, combined with dense filtration, the tumour, which before the treatment was the size of an orange and was augmenting rather rapidily, was reduced to such a point that it is no longer easy to find it in the very voluminous gland, and the pains have disappeared.

We cannot in this short account analyse the different cases that we have had occasion to treat, but these are the *technical* conclusions that our researches have enabled us to establish. The advantages of radium-therapy arise from the following diverse considerations:

(1) The convenience and the painless character of the applications permit the apparatus to be left a long time in contact with the patients without interfering with their ordinary occupations.

(2) The interposition of screens of lead reduces the radiations to such proportions that their action on the cells of the neoplasia is slow, attenuated, and does not expose it to any harmful excitation.

(3) The weak quantity of their radiations can be compensated for not only by the length of the duration of the applications, but by the process of "cross fire," which augments the intensity of the radio-activity in the deep-seated tissues. These radiations, only being composed of elements of extreme penetration, affect but little the cutaneous covering and exercise their action specially in the deep-seated tissues.

SUMMARY.

From all these considerations it can be stated, from the practical point of view, that radium-therapy is of service in the treatment of certain neoplasms of the breast in different ways:

(1) Radium can cause a carcinoma of the breast to retrogress so as to give, in a certain way, the appearance of a cure.

(2) Radium can sometimes render operable a cancer primarily inoperable.

(3) Radium has acted favourably on some relapses occurring after the operation.

(4) It has acted also on some surrounding infected glands.

(5) In desperate cases it has sometimes relieved pains and diminished, for some time, the hæmorrhage and the secretion coming out of the ulceration, and so has prolonged life.

(6) Radium can be utilised after the operation as a preventive means against any return.

Of course, gentlemen, you must understand that these different services rendered by radium are not absolute; they are limited to cases not very extensive, and sufficiently localised. One must take care not to fall into exaggeration; also one must know that a quantity of radium is needed for each treatment, and this is a real and serious drawback for routine practice.

Ladies and Gentlemen,—I have now finished my lecture, and I thank you for your very kind attention. Before we part I should like to remark how frequently England and France have been conjointly interested in this question of radium. At first, on the physicists' side, were our Becquerel, Curie and Madame Curie, who discovered the radio-activity and radium. After them came the splendid work of your celebrated physicists, Sir William Ramsay and Rutherford; of Debierne in France, Soddy in England, and many others. From the therapeutic point of view there is also a common interest between the two countries; and the Paris Institute has had the pleasure of showing our radium work to several English medical men, and on these occasions I may say that sometimes my clinics have presented quite an English appearance. I have no doubt that this common effort will bring about a more rapid development, not only of what has already been done, but of another and no less important side of this question that has occupied so much of our attention for the last two years, but which is still latent—namely, the introduction into the system, by means of injection, ingestion and inhalation, of the gas which exists in radium and which is called "emanation." If these new studies, which are of such great interest, are followed with success it will be agreeable for us all, English and French alike, to feel that it is due in a large measure to the interest and support given by your great King to this question of radium. Therefore it is a particularly real pleasure for me, born with a strain of English blood in my veins, to feel that I have been able to bring some little stone as a contribution to the scientific wing of the great edifice of the "Entente Cordiale."

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, June 17th, 1909, Dr. RADCLIFFE-CROCKER, President, in the Chair.

THE following cases and specimens were shown :

Dr. H. G. ADAMSON showed (1) a case of "*persistent eruption of the hands and feet*" (*Acrodermatitis perstans*). The patient, Walter G—, aged 12 years, had an eruption of the hands and feet of five years' duration which had resisted all treatment. When first seen by the exhibitor six months ago the hands and feet were symmetrically involved, the eruption occupying the hands and feet and the wrists and ankles in a glove-like and sock-like fashion, except that the palms and soles and the nails were free. On the legs the eruption also extended upwards in front in a broad band as far as the knees. The areas involved were covered with crusts and small pustules closely set on a red infiltrated skin. Various local applications had been used with only temporary improvement. Recently continuous boric acid fomentations had been used, with the result that there was no longer any pustulation, but the skin still remained red and infiltrated and there was a constant eruption of deep-seated vesicles, varying in size from a large pin's-head up to a hemp-seed. This constant eruption of vesicles appeared therefore to be the primary affection, and the pustulation and crusting was no doubt secondary. The palms and soles, though free from eruption, presented a smooth wax-like appearance. The exhibitor thought that the case belonged to the class of which many examples had been described by Hallopeau under the name of "Acrodermites continues."

The PRESIDENT said he had had several cases of the condition, and the nails were very markedly affected; in several they were completely destroyed. At present he had in hospital a woman who suffered from melancholia. She had her fingers severely affected, also the hands, groins, and toes. She continued to have pustules, very much as in this case, over the rest of the body. They were completely exfoliated and raw. She was now being treated with vaccine injections, and he thought she was slowly improving. The cases he had known had begun in the extremities and extended thence. He had cured many of the finger-end cases by soaking them with lead lotion for ten minutes twice a day, and then doing them up with simple ointment.

(2) A case of *Multiple telangiectasis.* Margaret D—, aged 28 years, unmarried, presented numerous telangiectatic patches on the cheeks, the sides of the neck, and the uppermost part of the chest. The patches were mainly of the type of Nævus araneus, but there were also many small net-like patches of dilated vessels. On the front of the sternum was a deep purple, raised nævoid swelling the size of a millet-seed and two similar swellings on the back. There were similar "stellate" patches of dilated vessels on the mucous membrane of the mouth and lips, a vascular patch on the right iris, and a crusted wart-like tumour on the left eyelid which bled profusely if the crust were disturbed. The telangiectases had been present only seven months. There had been no hæmorrhages from mucous membranes, and there was no family history of telangiectases. There was a marked tendency to varicosity of the veins of the legs and thighs. There was some slight swelling of the right lobe of the thyroid. No visceral disease had been discovered.

Dr. J. L. Bunch showed a case of *Urticaria pigmentosa.* The patient was a girl, aged 10 years, in whom the lesions had first begun to show themselves about three months previously. Pinkish and brownish patches were first noticed on the back and chest, accompanied by slight itching, and these patches have gradually increased in number and size, no lesion after it had once appeared disappearing. The pigmented patches are now brownish in tint, not raised above the surface, irregularly distributed over the chest and abdomen, and more closely conglomerated on the back, more especially over the area situated between and below the angles of the scapulæ, varying in size from a pea to a small hazel-nut. Some of the lesions are very slightly, and others not at all, erectile on gentle rubbing, and there is very little factitious urticaria. Some of the lesions, on the shoulder more particularly, show white atrophic scarring, which might be the result of scratch marks.

The fact that the face and hands are entirely free from these lesions makes the diagnosis of lentigines improbable. Moreover, the patient has been and is working for an examination, and has been leading anything but an out-of-door life. The lesions differ from those shown by Dr. Bunch at the March meeting—also in a girl, aged 10 years—in that they are flatter and less erectile, and the duration of the pigmented patches is shorter.

The diagnosis of Urticaria pigmentosa was confirmed by Dr. Graham Little, Dr. A. Whitfield and others.

Mr. G. W. Dawson showed a *case for diagnosis* in a healthy-looking married woman, aged 37 years, with an eruption limited to the cheeks, upper lip, the forearms, and back of the hands. It had begun four months previously after a burn on the right forearm. The eruption was entirely erythematous; violaceous in colour on the forearms, but more of a brownish colour on the face, and scaling slightly. The colour and the division of the eruption by the natural lines of the skin, the presence of a white spot on the buccal mucous membrane, and the severe burning and itching, suggested Lichen planus. A biopsy was made and the histological appearance found to be typical of the latter disease.

Most of the members, including the President, considered it a case of Lichen planus. The exhibitor thought there was a great resemblance between it and Lichen variegatus, but the President pointed out that there was no arrangement in lines as seen in that disease.

Dr. S. E. Dore showed a case of *multiple comedones* in a child, aged 13 months. The parts affected were the chest, back, and face. The comedones were closely aggregated at the upper part of the chest, forming a horizontal band around the neck and shoulders. The upper limit of this band formed nearly a straight line, and had a clearly defined area of healthy skin above it. The lower limit was more diffuse, and the comedones extended as far as the costal margins in front and the scapular angles behind, although they were more sparsely distributed in these regions. At the upper parts of the chest and back there was much follicular and interfollicular inflammation, and either isolated papules and pustules or aggregations of these, forming large indurated swellings, accompanied by considerable pain and irritation. Below the inflamed area the skin was thickly studded with large comedones without inflammatory phenomena. On the cheeks there were a few groups of comedones of recent origin, and there were also a few on the abdomen. The origin of the condition was clear from the history given by the mother. The child had always suffered from bronchitis, and in February, March, and April of the present year she had frequently rubbed his chest with camphorated oil. The "blackheads" began to appear in May, and had continued to increase in number, although she had not used any more camphorated oil. Those on the face had only been noticed a week, and the inflammation and swelling had existed for a fortnight. The child was one of eight, six of whom were living; he was breast-fed, but had always been delicate. A curious fact in the family history was that the second child, who died at the age of two years, had suffered from blackheads on the face and cheeks from the age of four to twelve months.

Dr. ALFRED EDDOWES showed a case in a young woman of very *acute Lupus erythematosus*, which had been spreading on the face for several months in defiance of treatment such as usually benefited such cases. During the previous week a large number of fresh nodules had appeared symmetrically on the backs of both hands. The sudden aggravation of the eruption was attributed to the changeable weather experienced of late.

Dr. J. GRAHAM FORBES (introduced) showed a case of *mycosis of the tongue and nails* in a female child, Doris A—, aged 3½ years. At the age of three months a whitish membrane appeared on the dorsum of the tongue, and gradually spread over the inner surface of the cheeks and the angles of the lips. This condition has persisted ever since with intervals of temporary improvement. At one year, when the child began to crawl, the tips of the first and third fingers of the right hand and of the thumb of the left became reddened. The redness spread round the base of the nails, which in turn grew swollen, brittle and eroded. When the child was nine months old a scaly patch was observed on the front of the scalp. It healed up leaving a scar. There was no history of ringworm or skin-affection in other members of the family.

The patient first came under observation in the Out-patient Department at the Hospital for Sick Children in July, 1908, under Dr. Thursfield, to whom the exhibitor is indebted for permission to show the case. The first and third finger-nails of the right hand and the thumb-nail of the left were atrophied and heaped up into an irregular horny mass. There was also stomatitis, the dorsum and edges of the tongue, the angles of the lips and inner surface of the cheeks showing an irregular distribution of thin whitish membrane, which was easily detached. Applications of ung. hydrarg. ammon. were ordered for the nails, and potassium chlorate to be taken internally. Subsequently, as the child showed little improvement, she was admitted as an in-patient for further treatment. In February last the affected nails were removed, and the fingers have since been dressed with iodoform, ung. hydrarg. ammon., and later iodine paint.

Present condition.—Right hand: the third finger-nail has now grown again, but is much thickened and curved owing to heaping up under the nail. The first finger-nail shows partial growth. Left hand: the thumb-nail shows but little healthy growth, although there is less thickening than formerly. The first finger-nail for the last two months has shown signs of disease for the first time. It is becoming curved and the skin round its base and sides is red, swollen and desquamating. The state of the tongue since the patient was first seen has varied, showing alternate improvement and relapse.

In December, 1908, a patch of impetigo was observed on the back of the head. Hairs from this have recently been examined for *trichophyton* with negative result. Bacteriological examinations of the tongue and nails have twice been made at intervals of four months previous to removal of nails, and on each occasion yielded the same result.

Examination of the tongue.—Films from the membrane on the tongue and lips showed fine interlacing mycelial filaments and numerous yeast-like cells. Cultivations planted on *beer wort agar* and in *broth* yielded a copious mixed growth of cocci, bacilli and yeast-like cells. By plating out and sub-cultivating from single colonies a pure growth of yeast-like cells only was obtained, forming a thick creamy deposit on the surface of a maltose agar slope, and luxuriant white growth of waxy appearance on glucose gelatin slope. Broth culture yielded a dense woolly mass of mycelium and yeast-like cells which stained readily by Gram's method. In stained films the development of spores could be traced from a terminal bulging in the long axis of the mycelial filament to the setting free of the spore by fission of the mycelium. These characters, together with nail-head formation of the growth on the surface of gelatin stab culture without liquefaction, also the absence of mycelial formation except in broth and in the depth of the stab are in accordance with the typical features of *Oidium albicans* or thrush fungus.

Examination of the nails.—The surface was cleansed with absolute alcohol and fine scrapings were taken from the deeper portions of the overgrown nail. Some of these were stained by Malcolm Morris's method, and under the microscope showed the presence of an irregular branching mycelium, with spores, probably *Trichophyton ectothrix*. Other fragments were introduced on to and under the surface of a *beer wort agar* slope. The resulting growth, which appeared within forty-eight hours, was identical with that obtained from the tongue. Plating out on *beer wort agar* as before was resorted to and sub-cultures from single colonies yielded a good growth of yeast-like cells on *maltose agar* and glucose gelatine, but only in *broth* was there any development of mycelium.

Remarks.—The case from the first was considered to be one of tinea of the nails, and at one time the suggestion was made that the tongue had become secondarily infected with *trichophyton*. This explanation, however, does not agree with the order of events, the condition of the tongue preceding disease of the nails by at least six months. It is not altogether improbable that the state of the nails was due primarily to *oidium albicans*, although I have failed to find any record of such an infecting agent producing onychosis.

On the other hand, it must be borne in mind that *Oidium albicans* may have been obtained in culture from the nails merely as a secondary infection from contact with the surface of the mouth, and that the more probable primary cause, the *trichophyton*, failed to develop.

Dr. GALLOWAY brought forward (1) a case of *erythromelalgia* in a woman, aged 66 years, suffering from pain and redness of both hands and feet, and definite necrosis of the tip of the index finger of the left hand.

The patient was in feeble health and showed signs of marked general vascular degeneration. The main arteries of the extremities were firm and nodular; the heart was enlarged and gave evidence of myocardial degeneration, though no distinct valvular lesions could be identified. The pulse was irregularly intermittent. Pulsation could be felt in the blood-vessels of the extremities, but it was clear that the circulation of the extremities must be very considerably obstructed. At the present time there were no active manifestations of syphilis, but from the scars on the patient's body and from the patient's history it was quite clear that she had suffered long previously from syphilis—probably at least thirty-five years ago. About two years ago she commenced to develop the present symptoms. She suffered from a tendency to numbness and pallor of the hands and feet. The pallor was succeeded by flushing of the extremities, the condition being associated from the beginning with pain. The hands were more severely affected than the feet. The attacks of pallor and congestion became gradually more frequent and severe, till in the early part of this year they became so severe as to give rise to pain of the most trying character, and gradually necrosis of the left index finger developed. Now the condition shown by the extremities was that of constant though varying congestion rather than of pallor, especially of the feet. In the case of the hands, however, the attacks of pallor and numbness were still frequent, the pain suffered by the patient during these attacks being intense.

In addition the blood shows slight polycythæmia. On June 10th there were 5,500,000 red blood-cells, 7400 leucocytes, the hæmoglobin 105 per cent. Several examinations of the blood had been carried out, but this may be considered as an average result.

Dr. Galloway remarked upon the relationships of Raynaud's disease with the cases described as erythromelalgia, and again with those which are usually classified as examples of senile gangrene. The class of case of which this patient is an example, namely, that in which for some reason obvious arterio-sclerotic degeneration has come about, it may be in comparatively early life, appears to include many of those to which the name of "erythromelalgia" has been given. Of the causes producing the arterial blocking syphilis is probably the most effective. The combination of arterio-sclerotic change in comparatively early life with the onset of attacks of paroxysmal pallor and congestion, associated with violent pain, terminating in necrosis, forms a fairly definite clinical picture, and for clinical purposes can be separated from Raynaud's disease and simple senile gangrene. The very descriptive name of "erythromelalgia" is easily applied to such conditions. It is, however, clearly open to criticism whether such cases should be considered as belonging to a group apart from several other varieties of painful necrosis of the extremities.

Dr. ROLLESTON said that all the cases of erythromelalgia showed arterial sclerosis, and he thought those were exactly the cases described by Dr. Weber.

One authority called them thrombo-angeitis, and he thought this case belonged to that group.

Dr. F. Parkes Weber said he thought that Dr. Galloway's case was not an example of *true* erythromelalgia, and that it did not belong to the group of so-called "idiopathic" arteritis obliterans. In *true* erythromelalgia, according to modern differentiation in nomenclature, there should be flushing with blood (active hyperæmia) of the affected part, especially when held in a dependent position. The so-called "idiopathic" arteritis obliterans chiefly occurred in poor Polish or Russian Jews, especially those addicted to cigarette-smoking, and usually commenced in early middle life. It was almost confined to males, and seldom affected the upper extremities. Dr. Galloway's case was, he thought, a typical example of another class, namely of multiple obliteration of arteries, occurring as a late result of syphilis, a history of which disease could hardly ever be obtained in the preceding class of cases.

Dr. Galloway replied that there was the case of Weir-Mitchell, in which the leg was amputated, and the diagnosis was made by the person who gave the name to the disease. It showed wasting of the vessels.

(2) A case of *Xanthoma diabeticorum* in a man, aged 33 years, at present under his care in Charing Cross Hospital. He had been admitted two months previously suffering from the symptoms of diabetes mellitus in severe form. He was emaciated, somnolent, and suffered from neuritis affecting the lower extremities. There were no retinal changes, but a central scotoma was definitely ascertained in both visual fields. The urine—in quantity about 100 oz. a day—had a specific gravity of 1036 to 1040, and contained from 4 to 6 per cent. of glucose. Acetone and diacetic acid were both present. The amount of urea varied about 2 per cent.

The skin showed xanthoma. The lesions were papular and nodular in appearance, discrete and widely scattered over the trunk, especially on the anterior aspect and on the lower surface of the thorax. Very minute papules could be discerned on other parts of the body. The extensor surfaces of the extremities were, however, free. Slight lesions of flat xanthoma were seen on the lower eyelids.

The patient was placed under strict dietetic treatment with good results. The somnolent condition soon disappeared, the neuritic pains gradually vanished, and the amount of glucose diminished till about 1·5 per cent. only was found in the urine. The quantity of urine, however, increased until an average of about 140 oz. was passed per diem. The patient increased in weight and improved markedly in his general condition.

Coincident with his general improvement the xanthoma slowly vanished, and on presentation to the Society numbers of small papules only could be seen, many of them having lost the distinct yellowish colour characteristic of the affection.

One point of interest in reference to the treatment was noteworthy. In addition to strict attention to diet the patient had been treated by means of codeine, at first a grain and a half in twenty-four hours, and gradually increased to six grains in the course of twenty-four hours. When the amount of sugar had fallen to about 1·5 per cent. the quantity of codeine was increased to eight grains a day, with the hope of obtaining a further improvement in his condition. As soon as the larger quantity was taken the patient lost ground. The quantity of sugar ran up to about 5 per cent., associated with a sharp attack of diarrhœa and a recurrence of the drowsy condition which he showed on admission. The drug was stopped, and the patient once more began to improve, smaller doses being administered. This accident suggested that in this patient's case six grains in the course of twenty-four hours seemed to be the limit of tolerance.

Dr. Galloway said that he brought the case forward to show the disappearance of xanthoma coincident with the gradual improvement in health of a diabetic patient.

(To be continued.)

OBITUARY.

ERNEST BESNIER.

Ernest Besnier died on May 15th in Paris, at the age of 78, after a short but painful illness.

The loss not only to French Dermatology, but to Dermatology over the entire world, is inexpressible and irreparable; although, perhaps, only a limited number of our younger and more active fellow-workers are in a position to fully appreciate it.

It is a point of considerable importance in these times to accentuate the fact that before Besnier was appointed to the staff of St. Louis Hospital he had already greatly distinguished himself in general medicine, as is evidenced by the brilliant article on Rheumatism which he contributed to the *Dictionnaire Encyclopédique des Sciences Médicales* in 1876, which still ranks as a classic. The broad scientific spirit and critical acumen which characterised his earlier general work pervaded and illuminated the subsequent work of his life on diseases of the skin.

From the moment of his embracing Dermatology as a special study his influence was felt, soon to become paramount in France, and it may truly be said that he imprinted his unmistakable signature on the whole development of future dermatological thought.

His most important contributions to the literature of skin-disease were his remarkable annotations to the French translation of Kaposi's great work, which exhibited his judicial qualities in all their brilliancy; his monographs on psoriasis and prurigo; and his masterly article on eczema in *La Pratique Dermatologique*. Marked evidences of his independence of view, originality and individuality are present throughout these works, as well as in his many other contributions to dermatological literature. All his written work was carefully studied, beautifully expressed, exquisite in finish.

But the majestic importance of Besnier's personality and influence cannot be adequately gauged by his writings. It was as a teacher that he surpassed all his contemporaries, and attracted as pupils and apostles all the younger men who now constitute the bright constellation of modern French Dermatology. No one who ever attended his clinics can forget the tender thoroughness with which every patient was examined, the grace and accuracy of the language in which all points were demonstrated or elucidated, the unflagging and disinterested zeal of the master's labours, and the delicate—and withal affectionate—irony which he displayed towards his pupils, in whose hearts his memory will remain ever green and ever fragrant.

Well does the writer recall the impression produced upon all by Besnier at the Congress held in London in 1896. His exhaustive knowledge of English literature, the scrupulous care with which he investigated every case, the charming old-world courtesy with which he discussed differences of opinion even with the youngest of us, and the sterling honesty with which he confessed his doubts or difficulties, all testified to the greatness of the man, and explained the supreme devotion and affection with which he always was, and always will be, regarded by those who had the good fortune to be brought into intimate contact with him.

J. J. P.

CURRENT LITERATURE.

TUBERCULIDES IN RELATION TO GENERAL TUBERCULOSIS.

A. Ravogli. (*Journ. of Cut. Dis.*, March, 1909.)

In a review, which is of no great interest, the author records two interesting cases of what were probably tuberculides. A coloured man, aged 31 years, whose mother died of consumption, was suffering from marked phthisis, and presented a chronic papulo-pustular eruption, leaving scars on the face, neck, back, shoulders, lumbar region, chest, abdomen, and arms. The lesions were seated about the hair-follicles, the size of a split-pea, brownish-red, indolent, hard and resistant, necrosing and tending to aggregate into patches (photograph). The histology is very briefly reported. The lesions consisted of a massive infiltration of small leucocytes with giant cells, prominent about the blood-vessels.

The second case was that of a coloured boy, aged 6 years, suffering from tuberculous arthritis of the left elbow. The eruption consisted of scattered small papules, yellowish-brown in colour, and covered with greasy crusts, tending in places to coalesce in patches; it covered the whole trunk and a portion of the upper extremities. "An injection with one-hundredth of a milligramme of tuberculin brought a marked reaction." He says later on that both eruptions were of the nodular type. The second case he calls Lichen scrofulosorum, and the first a variety of Lichen scrofulosorum and Acne cachecticorum.

T. C. F.

OBSERVATION ON THE USE OF LIQUID CARBON DIOXIDE. Prof.

Joseph Zeissler. (*Journ. of Cut. Dis.*, January, 1909.)

Zeissler strongly commends the use of this agent in various dermatoses, and speaks enthusiastically of the beautiful results compared with those of other destructors of tissue. It is also rapid, comparatively painless, and makes no open wound. Zeissler described the technique in the *Dermatological Zeitschrift* for July, 1908, and recommends Pusey's suggestion to stamp the snow into an ear speculum or into cylindrical hard rubber tubes of different widths. The application is best handled through a piece of chamois skin or through a glove. The two factors determining the result are the degree of pressure and the duration of the application. The freezing induced should correspond to the intensity of the effect desired. For superficial lesions 5 to 10 seconds suffice, for deep-seated growths perhaps a whole minute or more. The effect of the freezing may be anything from simple erythematous reaction to necrosis. Generally a bulla forms after 5 to 10 seconds of deep freezing of a solid epidermis. Raw surfaces respond with free serous exudation. Œdema may be excited in the region treated. It is the best treatment for Lupus erythematosus, small nævi, and larger, pigmented, hairy nævi, and good for warts. Epitheliomata can be cured, and the author has tried this method for small patches of indurated eczema, Adenoma sebaceum, fibroma, keloid, and chloasma of the face.

T. C. F.

ALOPECIAS, CONGENITAL CIRCUMSCRIBED. Dubreuilh and

Petges. (*Ann. de Derm. et de Syph.*, May, 1908, p. 259.)

This paper commences with a reproduction of a plate by Alibert published in 1832, and a description of his case of alopecia due to a nævus which occupied part of the face as well as the scalp; in the latter position the hair was absent over the nævoid tissue. A large and possibly preponderating number of circumscribed congenital alopecias are due to smooth nævi (*nævi glabres*) in the opinion of these authors. The presence of pigmented or vascular nævi can usually but not always be demonstrated in association, and generally in contiguity, with these "alopecic nævi." Thirteen such cases are summarised, some from the literature, some newly published. The general characters are the presence of a circumscribed patch of alopecia of varying shape and size, with a smooth shining surface, and white, tawny, brown, or even black colouration; either quite smooth or covered with a fine, non-pigmented, downy growth of hair. The diagnosis from ordinary alopecia is difficult, and rests on the discovery of a nævus in contiguity with the patch or multiple nævi elsewhere on the face and body. Only one observation of the histology of these patches has been made, that by Dubreuilh in one of his own cases here reported, and it is interesting to note that no nævus-cells were found in the section.

In contrast to these types, but still instances of alopecia present at birth, are the cases of alopecia which are ascribed to pseudo-ulceration due to amniotic adhesions. There is in these cases arrest of development of the cranial envelopes, and histologically the bare patches are seen to lack the stratum corneum of the epidermis, which is represented by a few flat cells. The corium is also abnormal, the connective tissue being restricted to fusiform cells plunged in a gelatinous matrix; there are no hairs and no glands. Occasionally the cicatrisation may take place *in utero*. These cases are to be carefully distinguished from traumatic alopecia caused by instruments or otherwise in parturition, which constitute a third group of "congenital" alopecia, a rare but well-attested type. Yet another group, separated by Audry, would appear to be due to hydrocephalic distension of the skull, over the sutures of which alopecia has been noted subsequently, the alopecia being confined to the position of the sutures. Only the first two classes of "congenital alopecia" are so frequent as to be of practical importance.

The paper is illustrated by numerous photographic plates.

E. G. L.

A CONTRIBUTION TO THE STUDY OF THE HISTOLOGICAL STRUCTURE OF THE SKIN IN MONKEYS. Terebinsky. (*Ann. de Derm. et de Syph.*, December, 1908, p. 692.)

In view of the important use which is now made of various species of apes in experimental syphilis, Terebinský considered it worth while to make a comparative study of the skin of the chimpanzee, *Cynocephalus hamadryas*, *Macacus cynomolgus*, *Macacus rhesus*, and *Macacus sinicus* and *cercopithecus*; 150 fragments of skin were thus examined. It was found that the thickness both of the epidermis and of the corium varied in different species, comparison of skin from the same positions being made. In the chimpanzee the skin was thickest and most nearly corresponded to the human skin. In the corium the principal point of interest was the relatively increased numbers of mast-cells present in normal skin, from twenty-five to forty-five such cells being visible in a single microscopic field (Zeiss oc. 4, obj. DD.). There would thus appear to be peculiarities in the normal skin of the monkey which might, without such knowledge as is afforded by this paper, be taken for pathological conditions.

E. G. L.

TWO CASES OF CUTANEOUS GANGRENE, CONSECUTIVE (1) TO A HYPODERMIC INJECTION OF BENZOATE OF MERCURY, (2) TO A HYPODERMIC INJECTION OF GREY OIL. Thibierge. (*Ann. de Derm. et de Syph.*, December, 1908, p. 705.)

Thibierge adduces two cases in which a considerable area of skin became necrosed, apparently as the result of a subcutaneous injection of mercury, a soluble as well as an insoluble preparation being concerned. He argues that these cases contradict Gaucher's view (*Ann. de Derm. et de Syph.*, 1901 and 1906) that the hypodermic injections are preferable to the intra-muscular ones.

E. G. L.

ON THE CHEMISTRY OF THE SKIN: THE POWER OF REDUCTION OF THE HISTOLOGICAL ELEMENTS. L. Golodetz and P. G. Unna. (*Monats. f. prakt. Derm.*, February 15th, 1909.)

In this contribution the authors give the details of an elaborate histological study on the relative power of reduction of the different elements of the skin. The method of experiment consisted in exposing sections of the normal skin which had been hardened in alcohol and hence were fat-free, and cut in celloidin, to various colouring agents which were capable of being reduced by the tissue and of altering in tint as a result. For this purpose potassium permanganate, 1 per cent. solution, and a solution of ferric chloride and potassium ferrocyanide were employed. The solutions are respectively claret coloured and brown, but the sections stained in them became brown in the case of the potassium permanganate and blue in the case of the cyanide solution. The sections were not uniformly stained, but the different elements assumed more or less deep tints of the colour according to their power of reducing the colouring agent. The part to be most deeply stained was the basal horny layer, next the root-sheath of the hair, the middle horny layer, the arrector pili, protoplasm of the cells, collagen, and the most faintly of all the nuclei. It was found that all the elements of the skin had the power of reduction, but in different degrees, that the physiological process of cornification greatly increased this power, and that the power of reduction was due to the presence of more or less tyrosin in the elements.

J. M. H. M.

CONTRIBUTION TO THE HISTOLOGY OF THE LESIONS OF LICHEN PLANUS, WITH SPECIAL REFERENCE TO LICHEN OF THE MUCOUS MEMBRANE. G. B. D. Favera. (*Monats. f. prakt. Derm.*, April 1st, 1909, p. 293.)

In this paper two typical cases of Lichen planus occurring in young men, aged 26 and 16 years, are described, in both of which the mucous membrane of the mouth was affected in the characteristic manner. After describing the cases in detail, the writer discusses the literature on the subject of Lichen planus of the mucosa, which occurs, according to Heuss, in 40 per cent. of cases, and to Gautier in 57 per cent. of his cases. It is the mucosa of the tongue and cheeks which is usually affected, but cases have been recorded in which it occurred on the prepuce and at the anal orifice.

Pieces of tissue including the lesions were excised from the tongue and cheeks in the two cases reported, and were examined microscopically. The chief change noted in the epithelium was a general thickening, with a levelling of the surface with a flattening of the papillæ. This change was due mainly to œdema of the epithelium, both parenchymatous and interstitial. The cells of the Malpighian layer were found to be swollen, and some of them presented cavities. The inter-epithelial lymphatic spaces were markedly dilated and contained leucocytes. Kerato-hyalin granules were detected in a few of the cells near the surface. In the underlying corium the parts chiefly affected were the sub-papillary layer and the upper part of the reticular layer. There the vessels and lymphatic spaces were markedly dilated, and there was a dense cellular infiltration consisting of lymphocytes and small connective-tissue cells, some with two nuclei, but neither mast-cells nor plasma-cells were detected.

The writer regarded the affection as a chronic inflammatory process affecting the superficial layers of the skin, and probably of nervous origin.

J. M. H. M.

ON ENDOTHELIOMA OF THE AUTHORS. J. Fick. (*Monats. f. prakt. Derm.*, March 1st, 1909, p. 199, and March 15th, p. 251.)

In this contribution the writer reviews at considerable length the literature on the cases which have been reported as endotheliomata of the skin and other organs, and discusses the difficult question of the origin of such growths. Much confusion has existed with regard to this subject since Virchow suggested that cancer-cells might be derived from a transformation of connective-tissue cells into epithelial cells, a view which was strongly opposed by Thiersch, Waldeyer, and others. The cells lining the blood-vessels and lymphatic vessels are universally known as endothelial cells, but, in addition, several authors have gone so far as to name the cells lining the interfascicular lymph-spaces of the corium endothelial cells. These cells are all of mesoblastic origin like ordinary connective-tissue cells, and tumours growing from them are more closely allied to sarcomata than to epitheliomata. The author discusses the time-worn question of the origin of soft nævi, as certain authors have asserted that the cells which characterise these lesions are derived from the endothelium, others that they originate in the epidermis, while still others have suggested that they may take their origin in either. He refers, also, to the group of lesions variously known as syringo-cystadenoma or lymphangioma tuberosum multiplex, which, according to Jarisch and Kromayer, are endothelial growths, while Waldheim and others have maintained that they are epithelial and originate in the cells lining the sweat-ducts. In addition to these lesions he refers to certain cases of so-called endothelioma which have been reported by Juliusberg, Haslund, and others, in which the cells of the tumours appeared to be directly traceable to the endothelium.

J. M. H. M.

THE ELEIDIN OF THE BASAL AND SUPER-BASAL LAYERS OF THE STRATUM CORNEUM. By U. J. Wile. (*Monats. f. prakt. Derm.*, March 15th, 1909, p. 245.)

According to a recent work by Ciliano, the chemical nature of eleidin, instead of being an oil or mixture of albumen and cholesterin fat, as was formerly supposed, is that of genuine albumen. In this contribution the writer discusses

(1) the best staining methods for eleidin, (2) the difference in staining of the eleidin and the basal horny layer. and (3) the extent of the distribution of eleidin in the epidermis. To decide these questions. pieces of fresh skin of the sole of the foot were hardened for a short time in alcohol and sections cut. These were placed in picric acid to fix the eleidin, and were then subjected to a number of different stains. The eleidin was found present in the basal and super-basal layers of the stratum corneum. It was found that the best staining results were obtained with congo red, nigrosin, water blue, etc. With congo red and pikrin the eleidin of the basal horny layer was stained yellow, and that of the super-basal layer a reddish yellow, while the basal layer itself and the keratin were not stained. With nigrosin and pikrin the eleidin was stained dark green, and with water blue and pikrin, blue.

J. M. H. M.

REVIEW.

Bulletin de la Société Française de Dermatologie et de Syphiligraphie.*

The bulletin which records the work of the nineteenth year of the French Society of Dermatology and Syphilology is published under the direction of M. Danlos, the general secretary of the Society. During 1908 a large number of rare cases were demonstrated and several important papers were read at the monthly *séances*, which it will be of interest to review. At the January *séance* M. Brault read a paper on "*Noma in Algerian Adults and its Relation to Phagedæna of Tropical Countries*," illustrated by photographs of cases, and Professor Lang sent a communication on the "*Use of Grey Oil in the Treatment of Syphilis*," in which a detailed description of the method of preparing the grey oil is given. A number of cases were demonstrated, of which the most interesting were a "*Case of Telangiectatic Purpura*" affecting the legs of a young woman, aged 17 years, shown by MM. Balzer and Galup; a "*Case of Ulcerated Tubercular Syphilide Healed by Intra-muscular Injections of Colloidal Mercury*," by MM. Stodel and Galup, the colloidal mercury being got by establishing a Voltaic arc between two electrodes of metallic mercury; a "*Case of General Paralysis beginning three years after an Infection with Syphilis*," by M. Ehlers; "*Amelioration in a Case of Tabes under the Influence of Mixed Treatment with Mercurial Inunctions and Atoxyl Injections*," by M. Hallopeau; and a "*Case of Melanidrosis*," by M. Blanchard, in a boy, aged 13 years, in whom symmetrical dark patches occurred beneath the eyes, which looked as if the skin had been varnished with some dark substance. The affection had been present for five years, and left no doubt in the mind of the exhibitor that it was due to an anomalous sweat secretion. It began in November, 1904, with slight photophobia and conjunctivitis, black patches appearing on the eyelid, eyebrow and ala nasi. These objective symptoms disappeared spontaneously in eight days. It again appeared at the end of December, lasted eight days and cleared up. At the end of 1905 the eyes again became affected, the black reappeared and the eyelashes partially fell out. The conjunctivitis soon disappeared, but on this occasion the black patches persisted. The black could be removed by soap and water, but re-formed quickly. The condition also affected the surface of the tongue. It was most noticeable in winter and tended to clear up in warm weather. The case was demonstrated to a class of students when the patch beneath the right eye was washed till all the dark stain came off, while the left side was left as a control. In a quarter of an hour the blackness had returned, the boy being under the observation of the students meanwhile and not allowed to touch himself, and by the end of the lecture the patch was as black as the other side. The case seemed to be one of true chromidrosis. On examination of the skin by a lens it was found that the black substance was located chiefly at the sweat orifices, but that the sweat on coming out first was not discoloured but became so in presence of the air, when a precipitate of a black powder appeared, possibly as the result of oxidation. The black substance was an impalpable powder consisting of fine amorphous particles with no crystals or micro-organisms among them. After washing a patch with great care collodion was painted on it, and it was found that the black material, instead of being collected beneath the collodion, had passed through it and become deposited on the surface. This phenomena was difficult to explain except on the assumption that the collodion formed an osmotic membrane through which the sweat passed, and that when it reached the surface evaporation and exudation took place and the chromogene substance was precipitated as a fine black powder. The substance was insoluble in water, alcohol and ether, was slightly soluble in strong acids, and easily soluble in 10 per cent. solution of caustic soda. The general health of the patient was not affected, and the condition seemed to the author to be a functional sweat disturbance and not the result of an intoxication.

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* *Bulletin de la Société Française de Dermatologie et de Syphiligraphie.* Paris: Masson & Co., 1908.

At the same meeting M. Dumesnil contributed a paper "*On the Mercurial Oils for Injection: Grey Oil and Calomel Oil.*" The formula for grey oil as decided upon by a special commission of the Société de Pharmacie de Paris appointed to report upon it was as follows: Purified mercury 40 grm., adeps-lanæ anhydricus 26 grm., and medicinal oil of vaseline 60 grm. This product is of a fluid consistence and homogeneous appearance, and contains 40 cgrm. of mercury per c.c. The formula for the calomel oil was precipitated calomel 5 grm., sterilised adeps-lanæ 16 grm., medicinal oil of vaseline to 100 c.c.

At the February *séance* M. Hallopeau discussed the "*Therapeutic Use of Mercurial Oil and its Dangers.*" He pointed out that the mercury remained long in the tissues in a metallic state and was apt to form deposits, which might become absorbed in quantity and cause grave symptoms of mercurial poisoning. M. Fournier reported a "*Case of General Paralysis occurring in the third year after a Syphilitic Infection,*" and MM. Gaucher and Bory a "*Case of Suppurating Gumma of the Left Lower Eyelid six months after the Chancre.*"

MM. Gastou and Girauld discussed "*The Frequency of the Treponema in the Liver in a Macerated Fœtus and in Congenital Syphilis,*" affirming that maceration of the fœtus in a certain number of cases was a safe evidence of congenital syphilis. M. Morestin showed a case of "*Extensive Leucoplakia of the Tongue Treated by Decortication,*" the patient being a man, aged 39 years, who had contracted syphilis at twenty-one and had been treated insufficiently. He was a cigarette smoker and his teeth were defective. The tongue was extensively affected with leucoplakia, which had resisted all forms of treatment, mercurial and otherwise. Decortication was performed as follows: A V-shaped incision was made on the dorsal aspect of the tongue posterior to the leukoplakia, with the apex of the V in the middle line and pointing forwards. From the extremities the V curved incisions were made round the margin of the tongue to meet at the tip. The portion of the mucosa included in these incisions was removed by the scissors, the hæmorrhage stopped by compression, and the denuded surface approximated by sutures. The result was satisfactory. M. Danlos reported on "*A New Case of Sporotrichosis*" in a woman, aged 45 years, the affection being characterised by the presence of a small "cold abscess" on the back, and ulcerated plaques, like tubercular ulcers, on the neck, scapula and thigh. From the abscess a pure culture of the fungus was obtained. MM. Tansard and Railliet showed a case of "*Generalised Erythema following Subcutaneous Injections of Fibrolysin.*" The eruption simulated that caused by copaiba, being erythemato-urticarial and associated with itching. Merck's fibrolysin solution had been employed in doses of 2 c.c. and the eruption appeared after eight injections.

At the March *séance*, among other cases, MM. Gaucher and Louste presented a woman, aged 59 years, with ulcerating lesions about the legs, which were believed to be "subcutaneous sporotrichosis." The diagnosis was not confirmed by microscopical examination. MM. Wickham and Degrais read a paper on "*Pigmented and Vascular Nævi Treated by Radium.*" In the case of the pigmented hairy nævi by means of an energetic action and repeated exposures to radium they obtained both depigmentation and depilation of such lesions. With regard to vascular nævi their remarks were based on 101 cases, in which they had succeeded in curing, with the production of supple, little noticeable scars, all forms of vascular nævi except "certain monstrosities." MM. Dominici and Bory reported a case of "*Epithelioma of the Lip Treated by Radium*" in a man, aged 67 years. The epithelioma was about the size of a 5-franc piece. The treatment was begun on January 9th, 1908, applications of radium being given on six consecutive days, the radium being applied continuously during that time except at meal times. On January 21st a slight dermatitis occurred which lasted five days. By February 1st the lesion had regressed and become replaced by an ulceration covered with a yellow crust, and by March 5th healing was complete, and an excellent supple scar had resulted with only a slight induration at the outer angle. The mode of application of the radium was as follows: 4 cgrm. of sulphate of barium radium were varnished on a circular piece of linen 3 cm. in diameter, the radio-activity being 500,000; this was not applied directly to the skin, but with the interposition of a layer of gutta-percha, a layer of lead ½ mm. thick, eight rounds of paper, two layers of gutta-percha, and two pieces of lint. In this way the tumour was subjected to a radiation exclusively composed of γ-rays of an activity of 4500. MM. Balzer and Railliet recorded two cases of "*Congenital Pemphigus* (*Epidermolysis Bullosa*) *with Epidermal Cysts*" in a father and daughter. In the father's case what was diagnosed as traumatic pemphigus seemed to have developed in adult life, the lesions being most marked in the sites of pressure, and being characteristic of this affection. The condition might have been present at an earlier age, but had been so slight as not to have attracted attention. Marked dystrophy of the nails was also present, and the blood contained 5 per cent. of eosinophiles. When the lesions healed marked cicatrices were left. In the case of the daughter the disease was noted one month after birth and its onset was accompanied by diarrhœa and convulsions which were thought to be due to meningitis.

At the April *séance* MM. Balzer and Galup reported "*Three New Cases of Sporotrichosis in Disseminated Gummata.*" They all occurred in adults and presented both dermic and hypodermic lesions. In these cases the evolution of the disease was rapid, the lesions coming out simultaneously in a fashion which was graphically described as a *veritable explosion de tumeurs sous cutanées.* In one case the "explosion" was preceded for several days by an isolated tumour, in another it was accompanied by acute general symptoms. These cases were verified by successful inoculation on Sabouraud's medium, the cultures growing at laboratory temperature. MM. Gaucher and Nathan showed a "*Case of Mycosis Fungoides beginning in a Pemphigus Foliaceus*" in a woman, aged 64 years. The Pemphigus foliaceus had existed for five years, and consisted of varying-sized desquamating lesions and oozing patches where the scales had come off. The eyebrows had gone and the hair of the scalp was thin. The skin of the face was retracted, and there was marked ectropion. Tumours had gradually appeared on various parts with all the characteristics of Mycosis fungoides. MM. Gaucher and Louste presented a case of "*Syphilis Treated during a year with Atoxyl with no Success,*" and in which grave symptoms had supervened owing to the absence of specific treatment. The case was in an adult, and the atoxyl treatment was begun, while the chancre was present, at the Pasteur Institute. Fifty injections were given, and on several occasions vomiting and colic occurred. In spite of the treatment a severe papular eruption appeared, the lesions of which ulcerated. As the case seemed to be making no progress under the treatment it was discontinued and mercury resorted to. M. Brault reported a case of "*Arsenical Hyperkeratosis of the Palms and Soles in Vine-dressers of Algiers.*" The hyperkeratosis resulted from arsenic absorbed in manipulating crystals of arsenious acid, which the vine-dressers had to do in making solutions of the acid to spray on the vines. The affection was associated with other symptoms of arsenical poisoning, such as neuritis.

At the May *séance* MM. Gaucher, Fouquet, and Giroux showed a "*Case of Sporotrichosis of the Right Forearm of a Gummatous Type*" in a man, aged 44 years. The lesions, which were ulcerated, were preceded by nodules. M. Gaston reported a case of "*Generalised Xanthelasma in Patches, and Miliary Granulations in a Patient affected with Hypertrophic Biliary Cirrhosis.*" The patient was a delicate woman, aged 37 years. The important features of the case were the existence of the generalised xanthelasma, affecting not only the trunk and limbs, but the scalp, face, palms, and soles, the multiformity of the lesions consisting of tumours, patches, and miliary granulations, and the association of the eruption with hypertrophy of the liver, jaundice, and pruritus, which had preceded the xanthelasma.

At the July *séance* M. Hallopeau discussed the merits of "*Arsacetin,*" and referred to its comparatively slight toxicity. He had given two doses of 60 cgrm. a week, with one day's interval, for ten weeks (10 to 12 grm.), and the only accidents caused by it were transient digestive troubles. MM. Wickham and

Degrais read a "*Note on the Decolouration and the Reduction of Certain Angiomatous Tissues by Radium, without Inflammatory Reaction*," in which they referred to the elective action of radium, and described their method of "crossed fire," in which several specimens of radium are applied at the same time opposite each other on a tumour, so as to subject the internal parts of the tumour to the crossed fire of the rays from each specimen, the superficies being only acted upon by the individual specimen applied to it. MM. Lenglet and Sourdeau discussed the value of "*Combining the Method of Electrolytic Ionization with Scarification*." The combined methods of radiotherapy and minor surgery have for years proved themselves to be a great saving of time in the treatment of such affections as Lupus vulgaris, rodent ulcer, etc. In this contribution the writers advocated the combination of scarification or scraping with ionization, high frequency with ionization, and radiotherapy with ionization.

The above list of cases demonstrated and papers read will tend to show the scope and character of the work done by the French Society of Dermatology and Syphilis during 1908. The bulletin in which this is recorded forms one of the most important additions to dermatological literature of this year, and the care and detail with which the cases are reported not only reflect great credit on the secretaries of the *séances*, MM. Bodin, Brodier, Déhu, Druelle, Étienne, and Lenglet, but render these reports not merely lists of cases but of permanent value to the literature of skin-affections.

J. M. H. M.

NEW DRUGS, PREPARATIONS, ETC.

MERCURIAL TREATMENT WITH BEIERSDORF'S "MERKALATOR MASK" COMPARED WITH OTHER METHODS.

KROMAYER, in a paper on this subject, describes the apparatus, and compares the results of the administration of mercury by this method with that by injection, inunction, and internal medication, both as regards the clinical results and therapeutical drawbacks of the various methods.

The apparatus consists of a flexible wire-framed mask, which can be shaped to follow the contour of the nose and chin. It is about the size of the fist, and on this wire frame a double layer of gauze is stretched, between the meshes of which finely divided metallic mercury is held in suspension, eight grammes on each mesh. The mercury is inhaled with the inspired air and very rapidly absorbed. The apparatus is fixed to the head by tapes, and is worn for a varying number of hours by night or day, or both, where rapid results are desired, for ten days, and is then replaced by a fresh one.

The author has treated 160 cases of syphilis, and considers that the results are more rapid than those obtained by inunction, but not so quick as by injection.

He is of the opinion that it is a safe, accurate, and satisfactory method of giving mercury as a routine treatment.

The toxic signs are similar to those found in the older methods of administration, but clear up more rapidly on the cessation of the treatment.

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DERMATITIS HERPETIFORMIS IN CHILDREN.

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Dermatitis herpetiformis is in this part of the country not the rare disease that the text-books make out, but as it is still rare in children there may be excuse for the publication of these four cases which occurred simultaneously.

All bullous eruptions are of interest to the dermatologist, and are peculiarly fascinating to most, as the unknown always does attract the searcher.

No definite cause has yet been ascertained, and if we have advanced somewhat in the matter of diagnosis our methods of treatment are still mainly empirical.

Case 1.—Mary McI—, aged 9 years. There is no history of any skin-eruption in the family. Her father was a strong man, and was accidentally killed; her mother is delicate, suffering from a weak chest and cough. The patient is the youngest of three children living; her twin sister died within a fortnight of birth; other two children died in infancy, one from whooping-cough and the other from diarrhœa. The mother had one miscarriage at three months, but otherwise there is no suggestion of syphilis.

As was to have been expected in a twin, Mary was not strong at first but throve well later. Of some importance to note is the fact that as an infant she was on several occasions seized with convulsive fits.

In July, 1907 (aged eight), she was sent to a holiday home in the country for fourteen days, and returned from there with Pediculosis capitis and scabs on the nose and scalp. Within a month the eruption had spread all over the body and limbs, changing as it went to a bullous condition, and since then she has never been entirely free.

An index of the severity of the eruption and its type is the diagnosis of chickenpox made by one practitioner who saw her. On admission at the end of November, 1908, the whole skin of the body was seen to be pigmented in parts, whitish areas being seen interspersed. The back and neck adjoining, arms and legs were the parts chiefly involved in the present attack.

The lesions, which were multiform in character, at places erythematous, at other places bullous or vesicular, with a red halo, showed a tendency to grouping. It appeared also, at times, that the lesions spread centrifugally. Parts that had been recently affected generally showed a redness of the skin, persisting for some weeks after the disappearance of the eruption from these parts.

She was obviously out of health, and had a very definite enlargement of the abdomen and troublesome cough. Dr. Gulland was asked to examine her, and he reported that she had definite signs of pulmonary tuberculosis, with enlargement of the liver, spleen, and abdominal glands.

A Pirquet reaction gave a positive result.

The urine showed indican, but was otherwise normal.

Blood examination, November 10th: Polymorphs 74·5 per cent., mononuclears 20 per cent., eosinophiles 5 per cent.

She was then given 2½ minims of liq. arsenicalis thrice daily.

On November 22nd there was a fresh eruption on the right arm, and on the 23rd the result of the examination was: Polymorphs 64·8 per cent., mononuclears 22·3 per cent., eosinophiles 12·8 per cent.

On November 24th the liq. arsenicalis was increased to 5-minim doses.

December 8th, polymorphs 63·5 per cent., mononuclears 25·5 per cent., eosinophiles 10 per cent.

On December 21st a fresh small group of vesicles appeared, and on the 23rd the report was: Polymorphs 56·5 per cent., mononuclears 37 per cent., eosinophiles 6·5 per cent.

On January 5th, polymorphs 69·5 per cent., mononuclears 28 per cent., eosinophiles 2·5 per cent.

The treatment in addition to the arsenic consisted of milk diet and the local application of an ointment containing 5 gr. of ammoniated mercury in an ounce of vaseline.

The accompanying photographs show the character of the eruption on the limbs.

Charts were made from week to week to see if any more information could be obtained as to the spread of the disease and its localisation, but the only point of interest found was that the lesions were particularly apt to recur in the distal parts of the limbs. The fronts of the wrists and forearms and the fronts and inner aspects of the ankles seemed to be favourite sites.

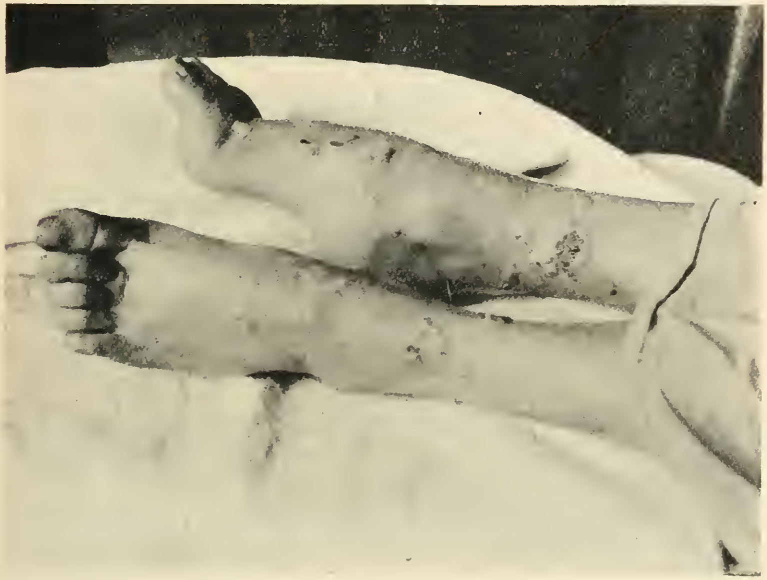

FIG. 1.—Case Mary McI—.

CASE 2.—Bessie W—, aged 3 years, admitted October 2nd, 1908, with a history of the condition having lasted for three weeks.

The mother informed me that as an infant she had been quite healthy, although brought up on the bottle. Both father and mother are healthy, and there is no evidence of any syphilitic taint or hereditary skin-condition.

When eighteen months old she suffered from whooping-cough, but it was not complicated with fits.

The whole family (six children, of whom Bessie is the fourth) had previously lived in the country, and a month after coming to stay in an unhealthy part of the town all commenced to show signs of impaired vitality. The feeding had probably somewhat to do with this; the husband was out of work, and as his wife had to go charing they lived principally on dry and tinned foods.

The lesions, which were bullous, resembled those of Pemphigus and started on the genitals and inner aspects of both thighs. Later the eruption spread down the lower extremities to the feet, up the trunk as far as the umbilicus, whilst simultaneously they attacked the face and arms.

On admission with the pustulation and the crusting accompanying the bullæ the temporary diagnosis of a bullous impetigo was made, and accordingly the case was treated with an ointment of 5 gr. to the ounce of hydrarg. ammoniat. in vaseline, and this was continued during the time the patient was in hospital.

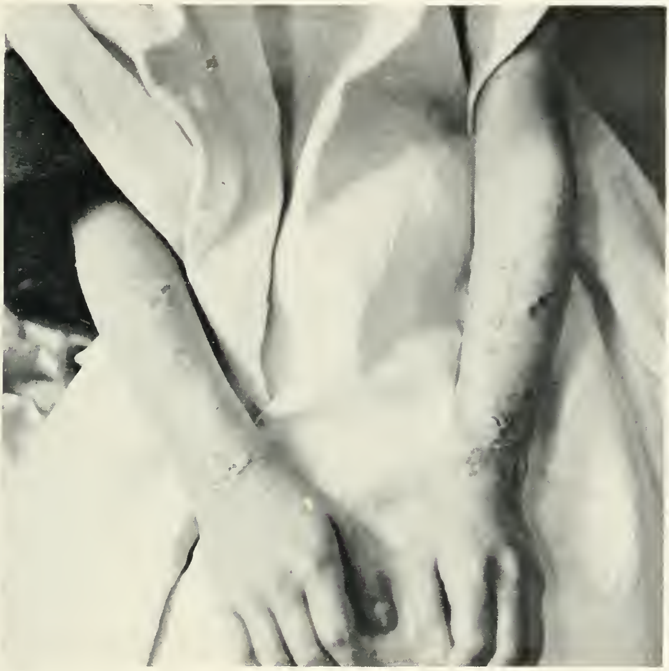

FIG. 2.
Case of Mary McI—.

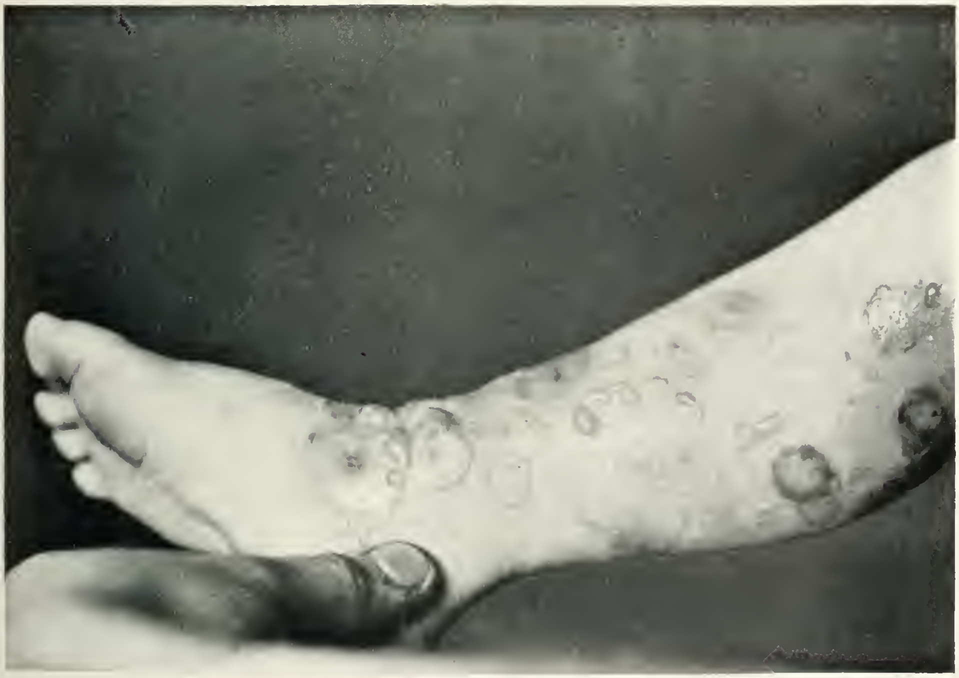

FIG. 3.
Case of B. W—. Shows Carcinate Bullæ,

TO ILLUSTRATE DR. GARDINER'S ARTICLE ON DERMATITIS HERPETIFORMIS IN CHILDREN.

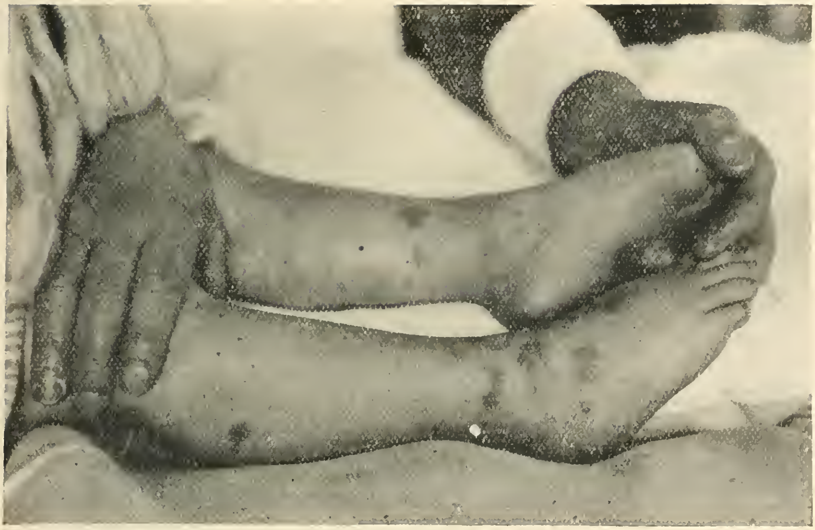

Fig. 4.—Case B. W—. Papulo-erythematous stage.

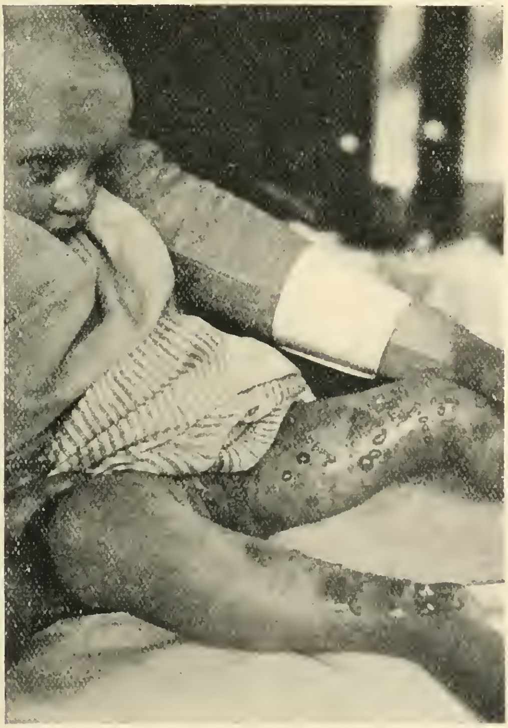

Fig. 5.—Case B. W—.

The temperature when first admitted was 100° F., but this disappeared after twenty-four hours and remained normal while she was in hospital. After a few days' treatment as above a very interesting gyrate erythema appeared on the legs; this became bullous and the erythema rapidly subsided, leaving the bullæ, which remained for over a week.

Internally calomel was given every night for three weeks and then changed to Gregory's mixture as the tongue remained dirty. The patient was kept on milk diet entirely while in hospital. On October 29th she was discharged quite well but returned on November 4th with a relapse. The eruption then affected the body from the waist down and was more of the bullous type, there being no erythema. The treatment was now altered to liq. arsenicalis 2½ minims given thrice daily and she was again discharged on December 5th quite well.

The blood was examined on three occasions :

November 15th : Polymorphs, 44·4 per cent. ; mononuclears, 51·6 per cent. ; eosinophiles, 4 per cent.

November 23rd : Polymorphs, 40·5 per cent. ; mononuclears 50·5 per cent. ; eosinophiles, 8 per cent. ; basophiles, 1 per cent.

November 29th : Polymorphs, 46 per cent. ; mononuclears 45 per cent. ; eosinophiles, 9 per cent.

The photographs show the very fine circinate bullous phase and the papular red areas occurring at another time.

No part of this patient's skin showed pigmentation to any extent. The distal parts of the limbs were the most stubborn.

Case 3.—Bella C—, aged 8 years, was admitted on March 31st, 1908, with the history that the condition had lasted since the beginning of January, 1906. There is again no hereditary history, the father and mother being both healthy. One child, the eldest, died recently from some obscure condition ; other two children, aged 14 and 18 years, are alive and healthy. The patient was nursed at the breast and was strong as an infant, but when one year old she developed a discharging ear, and as this was healing a boil developed on the scalp, which was poulticed and treated by domestic remedies, but took two years before it got quite well. Until the age of seven the patient remained well, but a month before the eruption arose she was noticed to be suffering from loss of appetite and was kept away from school.

The first sign of the disease was the appearance of a bulla on the outer aspect of the left thigh; this bulla attained the size of a florin but healed up quickly. A few days later it developed again and then spread to other spots on the legs; the arms became affected subsequently, and only more recently has there been any eruption on the abdomen. The first attack lasted for six months, and since then she has only been free of the disease on two occasions for a month at a time.

On admission the whole of the body was practically affected and there was slight erythema in places, with the presence of bullæ ranging in size from a pin-head to a florin. The bullæ seemed to become rapidly purulent, and where these had been close together there were more or less large crusts. Grouping was very marked, and in one instance numerous secondary lesions formed round a bulla which had been punctured. In her case also the parts previously affected remained red for some time. Pigmentation marked the seat of former lesions.

No eosinophilia was found at this time.

Under treatment with arsenic internally and outward applications of 5 gr. to the ounce of hydrarg. ammoniati in vaseline she made a rapid recovery. Milk diet alone was allowed.

On April 29th, 1908, she was again admitted with a similar attack; identical lines of treatment were followed out, but even with this she had a relapse in hospital. Eventually she was discharged well on July 3rd.

Re-admitted on November 25th she was then found to be worse than before. For fourteen days she was given small doses of calomel and salol, but did not really improve until she was put on arsenic on December 10th. When she went out she was clear of the eruption for some days. In the interval between the last admissions she had been taking arsenic at home.

Urine examination showed the presence of indican and salol.

Blood examinations:

	November 26th. Per cent.	December 7th. Per cent.	December 22nd. Per cent.
Polymorphs	66	62·5	56·5
Mononuclears	22·5	25	36
Eosinophiles	11·5	12·5	7·5

She was discharged on January 2nd, 1909.

Bullæ were very extensively present in this case, and the face was more pronouncedly attacked than in the previous one.

Again, however, the lower parts of the limbs and especially the flexor aspects of wrists and ankles, showed the more persistent eruption.

The photograph shows the very widespread affection of the trunk and face in November, 1908.

Case 4.—Catherine G—, aged 9 years, was admitted on November 5th, 1908, with the history of the condition having lasted for five years. The patient's father and mother are both strong, and the only point of possible importance is that her mother, with the first three pregnancies, miscarried at the third month. Other three children, aged 5, 7, and 11 years, are quite healthy.

As an infant the patient was strong and was nursed at the breast, croup, whooping-cough, and resultant congestion of the lungs being the only illnesses of her early life.

About a year before the present condition appeared the mother noticed that she did not take her food with the usual avidity, and she took her to a doctor to get a tonic.

The bullæ appeared first on the chin and then spread to the vulva, and subsequently all over the body. Whooping-cough and congestion of the lungs, mentioned above, attacked her three weeks later, and during this time the eruption became more severe.

Various doctors and herbalists were consulted, and she, as is natural with this class of patient, was longer under treatment by the latter, taking their medicines for four or five months. On admission she was deeply pigmented all over, and it was strongly suspected that she had been taking a prolonged course of arsenic, but no history of this could be obtained. Since the onset of the disease she had only been free for one fortnight two years ago.

When examined on admission the eruption was found to affect the head, neck, genitals, thighs, ankles, and wrists—that is to say, that only there were redness and bullæ seen, but, as indicated above, the rest of the body showed pigmentation.

Soamin was at first administered hypodermically, but as it caused her great pain it was stopped, and arsenic was administered by the mouth. Under this she got quickly well and was discharged cured on December 11th.

Examination of the urine on November 6th: Specific gravity 1015 acid, no albumen or sugar. On December 3rd the condition was similar, except that indican was found.

Blood examinations:

	November 5th. Per cent.	November 19th. Per cent.	December 1st. Per cent.	December 9th. Per cent.
Polymorphs .	62 .	48·4 .	27·2 .	64·3
Mononuclears .	26·8 .	38 .	62·8 .	26
Eosinophiles .	11 .	13·6 .	9·2 .	9·7

On February 8th, 1909, she was again seen, and the parents reported that she had only remained well for a few days. The eruption was found to be affecting the pubic region inside of the thighs, ankles, and fronts of the wrists. Unguent. sulphuris was prescribed.

The photograph shows the pigmentation left on the lower limbs.

One of the most complete summaries of this condition occurring in children is given by Knowles (1). In his paper he deals with fifty-seven cases reported from many sources, and it may be well to follow along the lines he has adopted.

Ætiology.—Of the fifty-seven only twenty-six could be ascribed to previous ill-health, whereas three and possibly the fourth in this record give definite histories of this.

One, after coming from the country to live in a town slum, was fed on improper food and her health soon suffered; one was noticed by the mother to be out of sorts during the month preceding the attack; the third had been in poor health for a year previous to the outbreak; whilst the fourth being a twin was, very likely, below par.

Neurotic influences apparently are of little importance in the production of the disease; one of my cases gave a history of convulsion fits, and only four of Knowles' cases gave a history of nerve disturbance.

Sepsis following an infected wound of the scalp is mentioned in one of his cases, and it is noteworthy that in one out of four there should have been a definite sequence of crusted impetigo of the scalp and the bullous eruption. In another of the above histories it will be noticed that the patient suffered for two years from an obstinate sore of the scalp, and from its appearance it was doubtful if it had been long healed.

Type and site of the eruption.—Bunch (2) states that Dermatitis

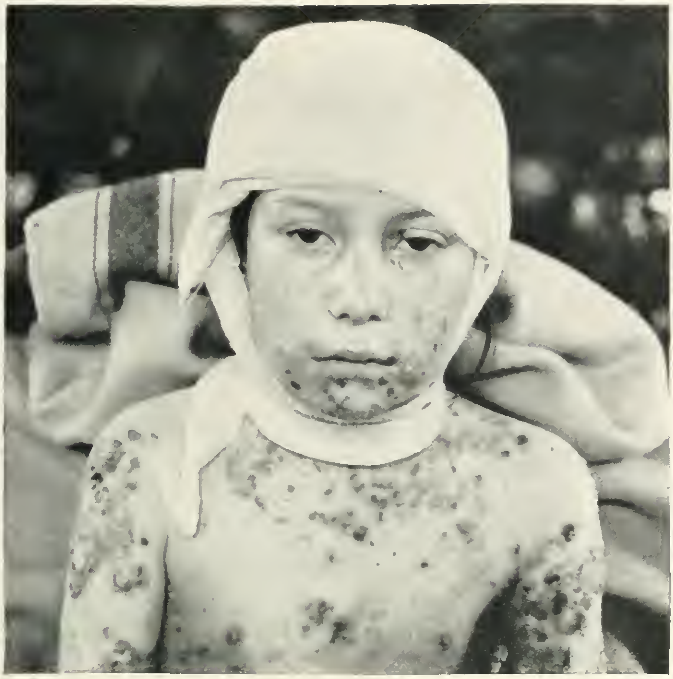

FIG. 6.
Case of B. C—.

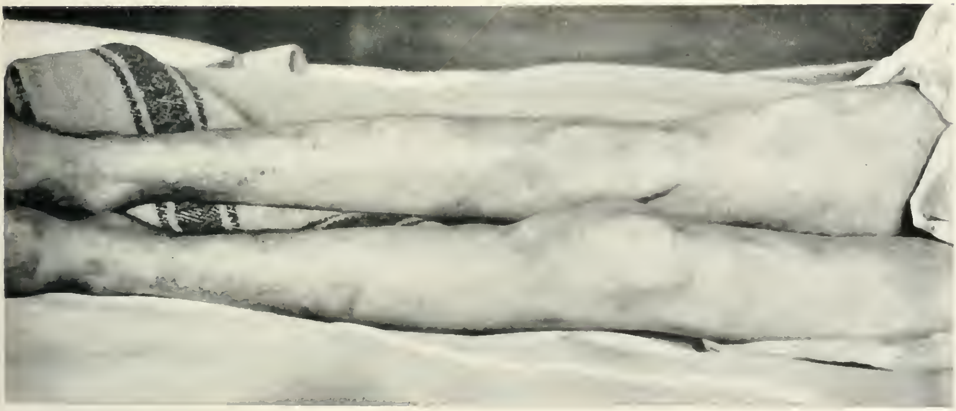

FIG. 7.
Case of C. G—. Shows pigmentation of limbs.

TO ILLUSTRATE DR. GARDINER'S ARTICLE ON DERMATITIS HERPETIFORMIS IN CHILDREN

herpetiformis and pemphigus in children are indistinguishable unless for the erythematous base, that the eruption is symmetrical and is characterised by crops of erythematous papules, centrifugally spreading vesicles and bullæ, and that there is no definite localisation.

Boeck (3), on the other hand, dealing with the disease at all ages, maintains that with the exception of a few generalised cases which are difficult there is not a dermatitis so specially localised and characteristic. The regions most frequently affected are in his opinion—(1) the extensor aspects of the elbows and forearms adjoining; (2) neighbourhood of the knees less frequently; (3) sacral region almost as frequent as the elbows; (4) trochanteric region; (5) scapular region.

The cases here recorded seem to suggest that there is less definite localisation in children than in adults, and that the only characteristic areas are the flexor surfaces of the wrists and the inner aspects of the ankles.

All the cases showed the different phases of the lesions, and when the attacks were severest the eruption tended to be more bullous. The initial site of the attack was the face and scalp in two, the genitals in one, and the outer aspect of the thigh in the last. Knowles points out that the lower limbs are most frequently the first places to be affected.

At one time or another all four showed a generalised eruption, and yet this only occurred in twenty of the fifty-seven cases.

Grouping, which was most noticeable in a fresh outbreak, was observed in all (Knowles, fourteen out of fifty-seven).

Itching was not at all marked in any (Knowles, prominent in twenty-one). Pigmentation was very marked in two, distinct in one, and hardly noticeable in the fourth (thirteen out of fifty-seven).

Eosinophilia.—This must be regarded as a very important means of diagnosis. It was present in all four, and in the only five examined in Knowles' series it was invariably found. How far one should regard it as an index of the severity of the disease or whether an increase in amount does indicate a fresh attack or not is still a matter of dispute, and certainly these cases seemed to show that it varied erratically, although it diminished as the patient got well. Indicanuria is noted in three cases. Cultures were made from the bullæ in all four, and revealed the presence of the *Staphylococcus albus* with the addition of the *S. aureus* in one (Bessie W—).

Prognosis.—Although the general health never appears to be much affected, these cases bear out the statement made by Knowles that "positive cure without tendency to recurrence has not been recorded."

The differences between Dermatitis herpetiformis occurring in children and that in adults have been classed as four by the above writer.

(1) Itching is not so marked in children (50 per cent.).

(2) Marked multiformity of eruption usually absent (20 per cent.).

(3) Grouping seldom found under puberty (30 per cent.).

(4) Pigmentation as a sequel is less frequent (25 per cent.).

We fancy that the first and the fourth are very closely connected; the pigmentation can occur without scratching, but the latter increases it greatly.

From personal observation one would say that the two chief points are less typical distribution and less severe itching.

Treatment, as most authorities agree, is not at all satisfactory. Arsenic is by some regarded as useless, but in all these four it had some controlling effect on the disease although it was not curative. One must always take into account the improved hygienic surroundings of the hospital. There are very few skin-conditions which do not do better in hospital than in a slum, and the improvement is more marked in the generalised eruptions, especially if secondarily infected.

Locally all the cases were treated with the weak ammoniated mercury ointment already mentioned, and it suited very well.

Possibly at some later date we may be able to ascertain the source of the various toxæmias which are considered causal, and there are in all probability several, but until then we can only record results of empiricism.

In conclusion I wish to tender my thanks to Dr. Norman Walker, in whose wards the cases were under treatment, and to Captain Stewart, I.M.S., the house-physician who carried out the examination of the blood and urine.

References.

(1) *Amer. Journ. Cut. Dis.*, June, 1907.
(2) *Brit. Med. Journ.*, October 24th, 1908.
(3) *Monats. f. prakt. Derm.*, 1907, Bd. 45, p. 277.

BARLEY-ITCH.*

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On November 6th, 1908, the Medical Officer of Health for Bristol, Dr. D. S. Davies, kindly sent to me some grain-porters, who were affected by a very irritating rash contracted while they were unloading a cargo of barley from Casa Blanca, North West Africa.

In all some eighteen men were engaged in the work, and it is said to have affected fifteen of them.

The itching seems to have started within half an hour of the commencement of the work, beginning in the exposed parts, viz.: neck and chest, hands, forearms and face. Later the body was also implicated, and to such a degree that Job's condition on the ash-heap with an abundance of potsherds handy would have been a relief to the unhappy victims. The hold of the ship was very hot and dusty, and the sweat on the men's skins caught the dust easily. On examination I found a profuse rose-coloured papular eruption of an urticarial nature affecting the chest and abdomen mainly, but also the neck, face, arms, forearms, shoulders, and some few papules on the backs and legs. There were a few scattered papules in the scalp of one of the patients.

The men could not refrain from scratching during the whole time of observation, and they stated that they had had no sleep for several nights on account of the itching.

The eruption had no special arrangement; most of the papules had been denuded of epithelium by scratching, but a few had not. On compressing some of the undenuded papules a minute droplet of serum exuded from their summits, and on examination with a lens a tiny black dot was detected in several of the papules. These proved to be minute lance-pointed hairs with a fractured proximal end and an air-containing central medulla, which, however, did not extend to the pointed extremity.

At my request Dr. E. V. Dunkley (late pathologist to Bristol General Hospital) very kindly made smears and cultures of the fluid expressed from the papules and examined the barley-dust. *Staphylococci albus* and *aureus* were found, with one small colony of a white mould, which may possibly have been a contamination. The dust was found to contain similar vegetable hairs to those expressed from the papules.

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* Read before the Medico-Chirurgical Society of Bristol, November, 1908.

Dr. Davies had submitted the barley to the City Analyst, who reported as follows:

"I have examined the residue left on soaking the specimen of barley in water, and there appears to be nothing beyond the long-pointed vegetable hairs at all likely to produce irritation, and these I presume are derived from the barley itself. I was unable to detect any acari or other animal present." (*Signed*) EDWARD RUSSELL.

Mr. Russell also reports that no fungus was detected nor animal parasite.

As not a few cases of erythema or urticaria arising from handling barley have come under my notice from time to time, I was curious to ascertain, if possible, what the cause could be, and these cases being much more acute than the former ones they offered a chance of determining.

The dust from grain has long been recognised as irritating to the lungs and mucous membranes. Oliver, in *Dangerous Trades*, states that the dust obtained during wheat-cleaning contains pointed vegetable hairs particularly irritating to the bronchial mucous membrane. But I have found no reference to irritation of the skin due to the hairs of any grain.

It seems that it is only in dealing with barley from foreign (African) ports that this eruption is produced, so that there must be either some special feature in the variety of the barley itself, or some admixture of weed which could produce these fine hairs. As a rule the beard of barley is coarse and the terminal fibres not fine enough to produce this condition, but there are finer prickles on the main spines of the beard which in some variety might conceivably be fine enough to produce this condition. It is true, anyway, that animals will frequently refuse foreign barley, while they will eat readily of the home varieties.

It is well known that hairs of the fruit of the *Mucuna pruriens* (cowhage) will produce urticaria and erythema, and as the pharmaceutical codex states that this grows in Tropical Africa I thought it well to procure some for comparison. This I was fortunate enough to do, as the dispenser at the Bristol General Hospital discovered an old bottle of it upon a back shelf. On examination microscopically the resemblance to our specimens from the barley was at once apparent.

It will be remembered that cowhage was used as a vermifuge and rubefacient. The fineness of the hairs permits of ready penetration of the skin, and this by direct stimulation of the nerve-endings may lead to (1) scratching, which in itself may produce urticaria, and (2) vaso-motor spastic disturbance, whether directly causing a spasm of the veins, and so preventing the natural absorption of the lymph (Unna), or consequent upon a spasm of cutaneous muscles (Gull).

It is not necessary to invoke toxin or bacterium for the production of the urticarial papule, though any such irritant would make the process doubly acute and much more prolonged. In this matter the hairs of *Mucuna* may be compared with those of certain caterpillars, *e. g.* that of the pus-moth (*Odonestis potatorum*), of Bombyx, and of three species of *Chenilles processionaires* (Dubreuilh), which, according to Colcott Fox (Clifford Allbutt's *System*), "live in communities and form compact nests, which they change at each skin-casting." It is "a dried secretion in the form of barbed hairs on the back of the caterpillar which determines the urticaria, especially in persons who frequent the woods or disturb the nests." I have not been able to obtain any specimen of *Chenilles*' hairs, but there is no doubt of the hairs under discussion being of vegetable and not animal origin, for Mr. J. H. Priestley, B.Sc., Lecturer in Botany of University College, Bristol, was kind enough to examine the hairs, and stated that they gave the cellulose and lignin reactions. Some of the hairs he considered resembled the cowhage hairs, but others were recurved in a somewhat different manner, while again others, like those I expressed from the papules, were quite smooth. Mr. Priestley discovered some acari, but these had not left any typical marks upon the skin, and would not have caused so rapid a lesion as to develop in half an hour.

These acari were referred to Mr. Herbert Bolton, F.R.S.E., of the Bristol Museum, but the specimens when examined were so macerated that he was unable to identify them. In course of conversation, however, Mr. Bolton mentioned the erythema which developed on handling sponges, and attributed this to the silicious particles these contained.

So there seems to be no doubt but that fine particles capable of penetrating the skin can act mechanically in producing urticaria as readily as the acid-bearing hairs of nettles, the cnidocils of Medusæ, or the toxins of squill, rhus, toxicodendron, or *Primula obconica*, etc., and in this may be compared with the grosser mechanical injury caused by a sharp or narrow instrument, such as a whip-lash, or the sharp impact of an electric spark.

The urticarial lesions due to injury, without toxic conditions to ensure permanence, will be merely evanescent. This proved to be the case in the subjects of barley-itch before us. They were relieved by simple treatment, and did not appear again.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

(*Continued from p.* 226.)

A Meeting of the Dermatological Section of the Royal Society of Medicine was held on Thursday, June 17th, 1909, Dr. Radcliffe-Crocker, President, in the Chair.

The following cases and specimens were shown:

Dr. Graham Little showed (1) a case of *Cheilitis exfoliativa* in a young single woman, aged 21 years, a dressmaker by occupation. About two years ago she began to suffer with the lips, which were constantly peeling and thus painful. Both lips are affected, and when first seen she had thick yellowish crusts projecting about a quarter of an inch from the surface, covering the whole of the red portion of both lips so that they could not be closed. The heaped-up masses of scab could be readily removed with warm water, leaving a red, dry, slightly fissured surface; they would form again with great rapidity. She denied licking the lips. She says she was told when she was a child and taken to the Kilburn Dispensary that she was then suffering from psoriasis of the elbows and knees, but there are no traces of the disease now except a very scurfy condition of the scalp, which looked more like seborrhœa. There was no other seborrhœic manifestation. She was very hard-worked, and under much stress in endeavouring to keep a home for an aged father and crippled sister, but there was no neurotic history or symptom. There was no inflammation of the gums. Ionisation with zinc salts had been tried on one half of the lower lip, but with no great success. Painting with collodion (flexile) was now being essayed. The mucous membrane of the vulva was inspected, and proved to be slightly reddened and tender; the hymen was intact; there was no exfoliation of mucous membrane.

The case strongly resembled the two cases shown to the old Dermatological Society of London by Galloway in 1895, one a woman, aged 40 years, with strong neurotic associations; the other a man, aged 23 years. MacLeod had also shown a case (*Brit. Journ. of Derm.*, 1907, p. 288) in a neurotic woman, so that neurosis seemed a frequent accompaniment, which was, however, lacking in this instance.

Dr. MacLeod said that the members would remember a very marked case which he showed some time ago, in which there was extensive involvement of both lips. The patient was a hysterical, nervous woman, and she kept sucking and biting her under lip. Treatment had not been of any avail.

The President said he remembered one lady with a similar condition who had got well on Salisbury treatment.

Dr. Stainer said he had a case in which the scabs were heaped up and turned forward, and he was sure that in that case it was the wetting the lips with the tongue which kept the condition going.

(2) A very typical case of *von Recklinghausen's disease* not previously shown at any society, which had been sent to the exhibitor by his colleague, Dr. Theodore Fisher, to whom the best thanks were due for his courtesy in allowing the case to be shown. The patient was a boy, aged 14 years. He had very numerous pigmented areas, some as large as the palm of the hand, some as small as freckles, scattered on the abdomen and trunk. There were also a few but typical soft fibromata the size of a pea or Barcelona nut. There was also the usual dulness of mental capacity, but no history of mental disease in the family. The patient was small and stunted for his age.

(3) *Multiple hæmorrhages into the skin and subcutaneous tissue* in a little girl, aged 10 years. There were numerous small petechiæ on the trunk and on the mucous membrane of the mouth; in the latter position there was often free bleeding, so that the pillow was wet with blood. On the limbs and on the legs and arms there were large and numerous ecchymoses going through the stage of absorption and discoloration characteristic of this condition. On the legs there were several small patches of permanent hæmorrhagic staining ("cayenne pepper spots"). The history given was that this condition had lasted

for a month; since the case had been shown the child had been admitted into the Children's Hospital, Shadwell, with an enormous ecchymosis involving one side of the face, the result of a trivial fall. There was no history of bleeding in the family. The differential blood-count showed no pathological condition.

(4) *A generalised miliary papular eruption*, which had come out suddenly after the patient, a young man, aged 20 years, had had a day's cycling on Whit-Monday. The whole of the body, including the face, was covered with a closely set eruption consisting of follicular papules very like the appearance of Pityriasis rubra pilaris, except that these were not acuminate or horny. It was somewhat notable that the eruption had persisted for so long after the ostensible cause, excessive sweating, had been non-existent.

Mr. McDONAGH showed pictures and sections from a case of *spontaneous disappearance of an endothelioma* (*nævo-xanthoma*). J. B—, a girl, born April, 1906, with raised, elastic, brownish-red swellings in connection with the skin, scattered about the body, mainly affecting the face, especially the eyelids, and varying from one eighth to half an inch in diameter.

In June, 1906, the swellings were not so prominent, had not decreased in diameter, but had taken on a bright yellow colour, except the margin, which was red and vascular.

The patient was in other respects healthy, and examination of the urine showed nothing abnormal.

A microscopical examination of a lesion was made, giving the picture of a typical endothelioma. Outside the tumour mass a large vessel was noticed, which showed at one spot in its wall an enormous endothelial proliferation which spread inwards, obliterating the lumen to some extent, and outwards, invading the connective tissue. On examining the vessel along its course by serial sections these changes were found to disappear, the vessel again taking on its normal appearance.

There was a distinct margin the whole length between the epidermis and the cellular infiltration.

The changes described in the vessel above give sufficient evidence that the tumour is of endothelial and not of a epiblastic epithelial origin, not to mention that the cellular infiltration itself was grouped around the vessels and continuous with the endothelial cells. In June, 1907, the swellings were flush with the surface, still yellow, but the red margin had disappeared. Urine normal.

A microscopical examination was again made. The spindle and polygonal-celled infiltration of the preceding specimen now consisted of a collection of balloon cells, simulating exactly xanthoma cells in a specimen not stained for fat.

Staining with osmic acid only showed a few fatty granules in those cells lying under the epidermis. The cells were grouped into alveoli and were still arranged about blood-vessels, the endothelial cells of which often had a ballooned appearance, and no elastic fibres demonstrable by acid orcein were to be found in the walls. Elsewhere in the specimen were numerous blood-vessels, quite normal and obviously of new formation.

In June, 1909, every lesion had disappeared, and the skin in their place was a little whiter and had a more glazed appearance. The changes were so slight as to have been overlooked had one not known what was there originally. The scars produced by the biopsies showed no keloid formation.

The child is one of fourteen; none of the others have had similar lesions, and the family history is *nil*.

This case can be looked upon as a congenital nævus of endothelial origin, which in its course of involution went through degenerative changes simulating xanthoma.

Dr. **Whitfield** said that he thought that the tumour, of which sections were shown, was a very interesting one. He thought, however, that as a peculiar form of fatty cell was the characteristic of xanthoma, and the exhibitor expressly stated that no fat was demonstrable in the cells of this case, the term "xanthoma" could not be justifiably applied to the tumour. Dr. Whitfield said that the histological diagnosis of endothelioma had been made of many tumours, notably some of the scalp, but had been proved by Dubreuilh to be incorrect, the tumours really belonging to a type of benign epithelioma. Certain of these tumours showed a peculiar hyaline degeneration, sometimes affecting the cells and sometimes the stroma, and had given rise to all sorts of peculiar appearances which had called forth the name of "cylindroma." This tumour did not suggest a cylindroma as the degenerative changes were not arranged to form cylindrical masses, but he thought that very careful investigation was necessary before attributing this tumour to endotheliomatous growth.

Mr. **McDonagh**, in reply, said he did not think it was epithelioma, because he had seen serial sections which had occurred in the vessels, and one could see proliferation of the endothelium at one part of the vessel, and enlargement to form endothelioma; there was no trace of epidermis going down into the growth to show its epidermal origin.

Dr. J. M. H. MacLeod showed (1) a case of "*Psorospermosis follicularis vegetans*" (Darier's disease). The patient, a maid-servant, aged 25 years, was sent to Charing Cross Hospital in April, 1909, by Dr. Dyce Fraser, suffering from Darier's disease. Her family history was negative. Her parents were both alive and healthy. She was one of a large family, none of whom were similarly affected. Up to the age of twelve years the patient had been healthy. At that time the skin-affection first appeared on the extensor aspects of her arms, which became "covered with brown spots." Similar lesions gradually appeared about the forehead, abdomen, and legs. In a few years the disease had fully developed, and in spite of various forms of treatment has remained stationary since then. On examination at the hospital she was found to be a dark, well-developed woman of medium height. At first sight she presented a somewhat peculiar appearance, as the skin of her face looked greasy and dirty, especially about the forehead, naso-labial folds, and around the mouth, and her eyelids were inflamed. On closer inspection it was found that the dirty appearance on her forehead was due to the presence of numerous small, greasy, crusted lesions, of a yellowish-brown tinge. These lesions consisted of acuminate or flat papules, varying in size from a pin's head to a buck-shot. These were covered by an adherent crust, which was yellowish in tinge or dirty-looking and greasy, and which on being picked off left a depression. They were hard in consistence, rough to the touch, and in certain situations, such as the extensor aspects of the arms, produced the feeling of a coarse nutmeg grater. Some of the lesions were follicular, and occurred at the pilo-sebaceous orifices, being here and there pierced by a hair, or presenting a plug-like yellowish comedo, while others appeared to be independent of the follicles. The eruption was most marked on the forehead and temples, the extensor aspects of the arms, the interscapular region, the sternal region, the lower part of the abdomen, the anterior aspects of the thighs and the legs. On the face there was a band of these lesions, on the forehead at the border of the hair, which spread out on the temples. Behind the ears the lesions had coalesced to form irregular slightly vegetating patches. The skin of the naso-labial folds and around the mouth was of a dirty-brown colour and greasy, but only a few of the characteristic lesions were present. The scalp was thickly covered with yellowish greasy crusts, which were more yellow than those of psoriasis, and more raised than the patches of seborrhœa of the scalp. The chest and back were free from eruption except in the interscapular region and the sternal region. The eruption was most profuse on the abdomen, especially near the inguinal folds. The extensor aspects of the arms and legs were markedly affected, but the hands and feet were not involved. On the antero-exterior aspects of the legs the lesions had coalesced to form large patches covered with crusts, with here and there superficial ulcerations and hæmorrhagic scabs, resulting from scratching and the secondary inoculation of septic micro-organisms. A disagreeable odour was emitted by the patches on the legs. The nails of the hands and feet were opaque, presented white spots and longitudinal lines, were frayed and broken at the free border, and raised up by slight hyperkeratosis of the nail-bed. The mucous membrane of the mouth was not involved. There were no subjective symptoms associated with the eruption, except itching in the legs. The eruption had much the same distribution as the female case described and depicted by Darier in the *International Atlas of Rare Skin Diseases*, Plate XXIII, and the case recorded by Ormerod and MacLeod in the *British Journal of Dermatology*, 1904, vol. xvi, p. 321. A point of interest in the case was that the patient was a female, for up to the present time about double the number of cases of this rare affection have occurred in males.

A small piece of tissue, including several small papules covered with greasy crusts, was excised from the leg for histological examination. Considerable difficulty was experienced in cutting sections of it owing to the friable condition of the horny crusts. With the low power the most noticeable features of the sections were the thickened loose horny layer, a defective granular layer, and a marked irregularity of the prickle-cell layer, which in some places was thinned while in others it was hypertrophic. Immediately beneath it there was an inflammatory infiltration of cells, which was most marked around the dilated blood-capillaries, the rest of the corium appearing to be normal. The pilo-sebaceous follicles were unfortunately not well shown in the sections, but where present showed a dilation of the upper third of the follicle to form a gaping funnel, filled with a loose horny plug. The lower two thirds of the follicles appeared to be unaffected. The sections clearly showed that the pathological changes were not confined to the follicles, but occurred also in the intervening epidermis. With the high power the characteristic "round bodies" and "grains" of Darier were seen in considerable numbers. The "round bodies" were noted in the prickle-cell layer, and as a rule presented a double-contoured membrane, granular contents, and a shrivelled nucleus. Some of them seemed to be lying in a space. They had the appearance of degenerated prickle-cells, which had lost their prickles and undergone some degenerative process. Some of them appeared to be intra-cellular, and surrounded by a halo of protoplasm of the cell in which they had formed. The "grains," on the other hand, were situated in the stratum corneum, and appeared to be the "round bodies" which had undergone a partial cornification. They were all extra-cellular, and some of them presented the remains of nuclei. They had a hyalin appearance like molluscum bodies.

(2) *A case of ringworm of the scalp associated with baldness* (shown by Dr. Dyce Fraser for Dr. MacLeod). The patient was a boy, aged 9 years, who suffered from ringworm of the scalp which was peculiar in that it was self-curative. Each patch of ringworm soon after its appearance and apart from treatment became red and raised like a mild kerion and all the affected hairs fell out. At the time of exhibition there was a large irregular patch of this type situated on the vertex of the scalp and several smaller ones. Another peculiarity of the case was that surrounding the inflamed area there was a halo of pale bald scalp about half an inch in breadth. In this halo the hairs had not been affected with ringworm, and it appeared to be an alopecia secondary to the disturbance set up by the ringworm fungus in the inflamed area. The boy was otherwise in excellent health, and there was nothing abnormal about his scalp to account for the peculiar fashion in which it had reacted to the ringworm fungus. Microscopically the hairs were found to be affected by a microsporon fungus.

Sir Malcolm Morris showed (1) *a case for diagnosis*. The patient, a man, aged 38 years, had an unusual form of eruption, consisting of infiltrated and slightly œdematous papules, discrete or in groups, and circinate patches, of a pale brownish tint, on the arms, trunk, and slightly on the legs. With the exception of ringworm of the scalp he had had no affection of the skin until 1897, when an eruption similar to the present showed itself on his body, arms and legs, and disappeared at the end of a month under local treatment. A second attack occurred about a year later, and the eruption again improved but did not entirely disappear. From that time there has always been some eruption. He had contracted syphilis in 1900, after the date of onset of his present complaint, but it was accompanied by no eruption and only a slight sore throat. He had influenza last March, when the patches on his skin nearly vanished. Stained sections of one of the excised papules revealed no organisms of any kind and the histological structure was apparently normal.

Dr. GRAHAM LITTLE thought the clinical appearances consistent with the diagnosis of Granuloma annulare. He had a photograph of a case kindly sent him by Dr. Grover Wende, of Buffalo, in which the eruption was very similar in distribution and appearance to this case.

(2) A case of *Pityriasis rubra* following psoriasis and associated with osteo-arthritis in a man, aged 37 years. The psoriasis began twelve months after an accident sustained by the patient sixteen years ago, when the muscles and nerves of his arm were severely torn in some machinery. The disease was of a severe type, at times becoming universal and merging into Pityriasis rubra. Six or seven years after its onset his joints began to be attacked, and at the present time the joints of his fingers, wrists, shoulders and knees are severely affected with a condition clinically indistinguishable from osteo-arthritis. The whole of the skin of his body is red, dry and scaling, the psoriasis having almost lost its characteristics in the condition of exfoliative dermatitis. Recently there had been marked improvement under treatment by short courses of a modified Salisbury diet, a method which had given good results in the exhibitor's experience of other cases of the somewhat rare association of severe psoriasis and joint affections.

The PRESIDENT said that osteo-arthritis was often associated with psoriasis, and osteo-arthritic people were very liable to that skin-disease.

Dr. H. D. ROLLESTON and Dr. WILFRID FOX showed a drawing of a case of *leukæmic nodules* in the skin (the patient was unfortunately too ill to be exhibited) in a woman, aged 58 years

She came up to the out-patient department of St. George's Hospital on March 17th of this year complaining of "lumps in the skin," which she first noticed two months previously. She stated that for some months before this she had noticed from time to time pains in her bones, particularly the breast bone, and also in the small of the back. Otherwise she had had no illness which appeared to bear on the present condition. The nodules first came on the lower part of the abdomen and rapidly spread over the front of the body. Each individual nodule was small to start with, and grew in the course of a few days to the size of a large raisin. When they first appeared they were much darker than at present, in fact almost black. They caused no itching or pain, and she felt fairly well in herself, only rather weak. She had lost about a stone in weight in the last two months.

On examination the patient was seen to be a very pale woman, the skin having a transparent look, but not lemon-coloured. The nodules were a grey slate colour, shiny on the surface and free from scales. They were firm to the touch, very superficial, in the true skin, not in the subcutaneous tissue; some of them were a little tender.

The nodules were distributed thickly over the front of the trunk; above the pubes and over the sternum they were so near together as to be confluent in places. There were very few on the back, one or two groups on the internal surface of both thighs, and some isolated ones on the calves and upper arms.

The spleen was not able to be felt below the costal margin, but was shown to be enlarged on percussion. Later, the spleen could be felt without difficulty. There were enlarged glands in the groins and axillæ.

Dr. Fox thought the case was one of multiple pigmented sarcoma when it was admitted into the hospital on March 18th; but even at this early stage Dr. Rolleston suggested the probability of leukæmia. A biopsy was made from one of the lesions on the abdomen which confirmed this latter view, a slide from which was shown, and also a blood smear. It was noticed at the time of making the biopsy, which was kindly done by Mr. Frankau, that the wound continued bleeding for some time. There had been no previous hæmorrhages, and there were none to be found on the skin or mucous membranes.

The blood-count showed: Reds, 2,035,000; whites, 730,000; hæmoglobin, 40 per cent.

A differential leucocyte count showed: Polymorpho-nuclears, 50 per cent.; lymphocytes, 35 per cent.; eosinophiles, 2 per cent.; myelocytes, 10 per cent.; eosinophile-myelocytes, 3 per cent. There were a few normoblasts.

(A more complete account of the case will be published later.)

The PRESIDENT said he was familiar with pruritis in connection with lymphadenoma, and it was often an extremely early symptom, and might be of diagnostic value. The first case he ever saw illustrated that point. But with regard to leukæmic tumours no case had ever come into his experience, although he had read of them, and was familiar with a German case, where there were very large tumours on the face, and which was figured in the *Archives* some years ago. There did not appear to be itching in the leukæmic cases, at least not as a very prominent feature, whereas those cases of pruritis in lymphadenoma appeared to be most distressing and hopeless to relieve.

Dr. GALLOWAY said that he had had the opportunity of seeing the patient of whom Dr. Fox and Dr. Rolleston had spoken, by their kind invitation, while under their care in St. George's Hospital. He could, therefore, corroborate the description given to the Society, and could state that the drawing exhibited did not at all exaggerate the remarkable appearance presented by the patient. Members of the Society had for many years been on the lookout for such cutaneous manifestations occurring in leukæmia. It was well known that they had been described, but the cases were of such rarity that some had almost begun to doubt their existence. He would remind members present of the discussions which took place years ago when examples of the "idiopathic multiple pigment sarcoma" described by Kaposi had been shown at the Dermatological Society by Sir Stephen Mackenzie and others. The condition of the present patient, however, did not resemble at all closely the varieties of growth which were then under discussion. In this case the clear evidence of spleno-medullary leukæmia, as shown by the state of the spleen, the blood, and the symptoms of the patient, afforded complete proof that the development of the tumours in the skin was part of the general disease. He regarded this demonstration, therefore, as a refreshing support to the faith of those who had begun to doubt that such skin manifestations could occur in true leukæmia. Dr. Rolleston had remarked on the gradations, so far as clinical symptoms were concerned, which led, in cases such as these, to cases of chloroma, and those developing lymphomatous masses in the bones. Dr. Galloway pointed out how, in certain cases of Hodgkin's disease (lymphadenoma), signs of similar character might make their appearance in the skin. He showed a drawing of a patient recently under his care with true Hodgkin's disease, as shown by careful histological examination of the lymphadenomatous masses, by its clinical characters, and finally, as the result of autopsy. In this patient, about eighteen months before her death there developed on the skin numbers of small papules; these had a very characteristic slate-blue colour—a colour at first closely confined to the minute papule, but which spread slowly into the surrounding skin later on. The papules were intensely pruriginous, and the patient could not refrain from violently rubbing and scratching the skin. During the full development of this condition the appearance of the patient, as shown in the drawing, was very unusual. There could be observed the general brownish anæmic tint of the patient; scattered over the body were large numbers of slate-blue macules and papules, many of them showing small hæmorrhagic points, the result of scratching. The large lymphadenomatous masses in the neck could also be observed. The papules themselves were found, on histological examination, to consist of small collections of cells resembling leucocytes in the upper layers of the cutis. Such a case as this showed that in lymphadenoma also the skin could be affected in a manner resembling the manifestation of leukæmia described by Drs. Fox and Rolleston.

Dr. GRAHAM LITTLE said that Dr. Lee Dickinson had shown a case at the Dermatological Society of London in which there was a large number of tumours, but they were yellowish in colour. Dr. Dickinson had given him a good deal of material from them, which he examined and had shown the section at the Dermatological Society of London. The case died, and there was lymphadenomatous infiltration of the bone. The diagnosis was not in question, but the lesions were of a different colour, and in that case also there was extreme pruritus. It was published in the *Transactions* of the Clinical and Dermatological Societies seven years ago (*Brit. Journ. Derm.*, 1902, p. 219).

Dr. J. H. SEQUEIRA showed (1) a case of *canities* in a young child. The patient, a little girl, aged 7 years, is the eldest of four children. Her parents are healthy and there is no history of premature greyness in the family.

The child is rather small for her age. She began to attend school two years ago, and from that time has been subject to severe headaches, often attended with vomiting. Since the headaches started the child's hair, which is of normal quantity, has become grey. The greyness is general, and exactly resembles canities senilis.

The child's eyes have been examined by Mr. W. T. Lister, who found a slight degree of hypermetropia, which he did not consider sufficient to account for the headaches. The child had adenoids and hypertrophied tonsils, and these have been removed recently. The mother states that the child rarely suffers from headaches since the operation on the throat. The case will be watched with interest to see if the new hair growing will be of the normal colour.

(2) *A case of tertiary syphilis.* The patient, a Russian Pole, aged 29 years, has suffered from ulceration of the left arm since he was twelve years old. He is married and has one healthy child. An elder sister suffered from some extensive skin-eruption when the patient was a young child. The nature of the eruption and its characters are unknown. The patient is a well-developed, rather anæmic man. He has no signs of congenital syphilis.

The present condition began when the patient was twelve years old, and has gradually spread down the arm, the lesions at the upper part healing up and leaving scars. He has had no treatment until he came under Dr. Sequeira's care.

When the patient was shown there were numerous gummatous ulcers arranged in a circinate manner along the lower border of a large pigmented irregular scar, nearly as big as the palm of the hand. This was the only part of the skin affected, but the tongue was an excellent example of syphilitic leukoplakia. The patient, it may be remarked, is a cigarette smoker.

The case was shown as one of tertiary syphilis appearing as early as the twelfth year. Dr. Sequeira looked upon the case as one of acquired syphilis and not as congenital lues. There was no evidence in the teeth, eyes, etc., of the inherited variety, and although the exhibitor has shown cases at the Society of gummatous ulcerations in congenital syphilis (*Proc. Roy. Soc. Med.*, vol. i, No. 9 p. 183), such lesions are exceedingly rare and usually associated with other marked symptoms. The history rather suggests that the patient's elder sister acquired syphilis, and that the present case is due to infection from her in early childhood.

CURRENT LITERATURE.

SOME AFFECTIONS OF THE ORAL AND NASAL CAVITIES WHICH ARE RELATED TO SKIN-DISEASES. JOHN A. FORDYCE. (*New York Med. Journ.*, March 6th, 1909, p. 465.)

THE correlation of mucous membrane affections and skin-diseases is recognised not only in purely dermatological cases but also in the acute contagious exanthemata.

Eczema has its counterpart in catarrh of the mucous membrane; the pathological process is the same in both, and there is a further relationship in that local irritants, or some remote factor, may be operative in both conditions. An analogy has been drawn between pruritus of the skin and the symptoms of respiratory catarrh, and good observers, such as Brocq, have noted the alternation of catarrhal inflammation of the skin with those of the mucous membranes, but the writer has not observed this phenomenon. The absence of febrile disturbance in cutaneous catarrhs has been accounted for by the heat radiation from the surface and the elimination of toxic products through the excretions.

In dermatological practice a catarrhal condition of the skin may be set up by one of the mucous membranes, or the mucous membranes may be involved by auto-inoculation from the skin, as in the eczematoid dermatitis produced by discharges from the eye, ear, nose, mouth, or genitals. Eczema of the cheeks in children can often be traced to the dribbling of saliva, sycosis of the lip to nasal discharge, and facial erysipelas to picking the nose. Impetigo contagiosa and the impetigo of Bockhart may attack the mucous membrane of the mouth, and in a severe case of Ecthyma térébrant, reported by the writer, the mucous surfaces of the lips, soft palate, nose, larynx, and trachea were affected.

All the types of pemphigus attack the mucous membranes, as a rule, and primarily in Pemphigus vegetans, less constantly in Pemphigus foliaceus. In the latter, however, early manifestations in the mouth and larynx are not uncommon, and the presence of bullæ and erosions in the oral cavity, accompanied by constitutional disturbance and loss of weight, should lead to the suspicion of a beginning pemphigus. There are, however, certain unclassified, benign, recurring affections of the mouth and skin which come and go for years without influencing the general health. Howe has reported a series of cases of bullous dermatitis with mucous membrane lesions following vaccination. At times mouth lesions occur in Dermatitis herpetiformis and may antedate those of the skin by several months.

A vegetating dermatitis secondary to Dermatitis herpetiformis and due to pyogenic infection may occur, and be associated with erosions and ulcerations about the mouth and lips; the writer had a case of this kind under his observation. In Epidermolysis bullosa, and exceptionally in Herpes zoster, the mucous membranes of the mouth may be implicated. Herpes simplex, recurring Herpes simplex of the mouth and throat in syphilitic patients, herpes and aphthæ, described as occurring in children from drinking milk from cows suffering from foot and mouth disease, are further instances. In the erythema group and allied conditions, such as urticaria, angio-neurotic œdema, some forms of purpura and certain drug rashes, the mucous membranes of the mouth, nose, respiratory and gastro-intestinal tract may participate in the morbid process.

Osler has especially called attention to the visceral and constitutional manifestations similar to those of Henoch's purpura occurring in this group.

Erythema multiforme from various causes, urticaria, the more severe forms of purpura and various drugs give rise to bullæ, œdema, erosions and ulcerations of the mucous membranes.

In Dermatitis exfoliativa transitory white patches have been observed on the tongue and oral mucosa, and the vermilion borders of the lips may be the seat of an eczema which has spread from the surrounding skin, or occur as the result of lip-biting, cold and wind, or an acid secretion of saliva. Perlèche and the peculiar affection described by the writer in 1896 (Fordyce's disease) are next referred to. The existence of true psoriasis of the mucous membrane is denied by the majority of observers; it has been noted in the genital mucosa, and the author has seen its extension from the integument of the chin to the mucous surface of the lip.

Seborrhoic dermatitis of the scalp and face is sometimes associated with lesions of the mucous membranes. Wandering rash of the tongue and some leuco-keratoses, when accompanied by marked seborrhoic dermatitis of the face and scalp, have been connected ætiologically with the skin-affection. Lichenisation, the result of an intoxication or developing secondary to other pruritic diseases, has been seen by the writer associated with leuco-keratosis of the mouth. Lichen planus of the mucous membranes, which has only been recognised within the last few years, may begin on the genital organs simultaneously with lesions in the mouth, or the latter may precede or follow the cutaneous outbreak or occur independently.

Leprosy, in a large number of cases, has been reported as beginning with rhinitis, and in glanders the nasal discharge which precedes the lesions of the skin is the characteristic symptom. Actinomycosis finds its entry through a carious tooth or a lesion of the mucous surface.

In systemic blastomycosis, lesions of the larynx, trachea and bronchi have been reported by Montgomery and Ormsby.

Gangosa consists of an ulceration of the naso-pharynx extending to the skin of the face. Rhinoscleroma generally begins in the mucous membrane of the anterior nares, and may extend to the larynx and pharynx. Lupus erythematosus involves the mucous membranes either by direct extension from the face to the lips, or occurs in the mouth, pharynx, or larynx independently of any cutaneous eruption. After the lips it has been met with more frequently, in the author's experience, inside the cheeks. In the majority of cases Lupus vulgaris begins primarily in the mucous membrane of the nose, usually at the edge of the nostril, and by extension involves the skin of the face, the oral and laryngeal cavities. Pigmentation of the mucosa, especially of the cheeks, is seen in connection with Addison's disease, diabetic melanodermia, Xeroderma pigmentosum, vagabond's disease, acarus infection, and from the use of arsenic and silver nitrate. In Acanthosis nigricans the mucous membranes likewise participate in the general papillomatosis and hyper-pigmentation.

The mucous membrane lesions which have occurred in vitiligo, Darier's disease, xanthoma, a few cases of favus and ringworm, Recklinghausen's disease, and a blepharitis, which has been found in conjunction with Demodex folliculorum, are briefly referred to. The writer concludes by summarising his impressions of leuco-keratosis of the mucous membranes and its relation to syphilis and epithelioma, and advocates the removal—by means of a cutaneous punch—and the microscopical examination of a small piece of the affected tissue in all cases in which the diagnosis is important.

S. E. D.

ERYSIPELAS AND ITS TREATMENT. W. F. Barclay. (*Amer. Journ. of Derm.*, January, 1909.)

The symptom of the invasion and prodromata of erysipelas are compared by the writer to those of variola. The intense headache, backache and nausea, with vomiting, are not present in any other disease except smallpox. Occasionally the disappearance of other diseases and a complete cure of long-standing complaints results from an attack.

The bacterial origin of the disease is no longer in doubt; the nose, throat and ears are points of election for the apparent reason that these parts are most exposed and most likely to be affected. The disease recurs in many instances, is generally unilateral in its invasion, seldom affecting both sides of the body at the same time. It is especially dangerous to the parturient woman. The disease can be controlled and in many instances aborted. The quick administration of calomel and large and repeated doses of quinine—half a drachm daily—are advocated. The tincture of iron is also a valuable remedy. But the most important treatment for the control and cure of erysipelas lies in local measures. The following formula has never failed, in the writer's hands, to control the spread of the disease, cut short its duration, and prevent infiltration and ulceration of the skin: ℞. Sodii boratis ʒiv, acid carbolic ʒss, glycerine ʒiv, aqua ad ℥vi; *Sig.* apply hourly. Cloths saturated with the solution are constantly applied over the affected parts. Extension of the disease is minimised by its germicidal action; the writer has not observed ulceration or abscess in thirty years, and in not a single instance has the affection been transmitted to others.

S. E. D.

PLACENTAL SYPHILIS: A STUDY OF SYPHILITIC PLACENTÆ WITH REGARD TO THE PRESENCE OF THE SPIROCHÆTA PALLIDA. W. O. PAULI. (*Amer. Journ. of Derm.*, January, 1909, p. 14.)

IN view of the contradictory reports as to the finding of the *Spirochæta pallida* in the placentæ of syphilitic infants, the writer undertook the study of the syphilitic cases in the Obstetrical Department of the Johns Hopkins Hospital in order to determine the percentage of cases in which the spirochæta is demonstrable in placentæ presenting histological evidence of syphilis.

During twelve months, from July, 1907, to July, 1908, 25 out of 825 placentæ were diagnosed as syphilitic after microscopic examination by Prof. J. W. Williams.

Autopsies were obtained on 16 out of 25 infants, in 14 of which an anatomical diagnosis of congenital syphilis was made. This diagnosis was confirmed by the demonstration of the *Spirochæta pallida* in large numbers in the fœtal organs in 11 cases, 5 proving negative. The placenta was examined by the Levaditi method in 24 of the 25 cases, but in not a single instance was it possible to demonstrate a typical *Spirochæta pallida*.

After tabulating his own cases and reviewing the literature of the subject, in which he was able to collect 120 cases in which syphilitic placentæ were examined with positive results in 16 cases, the writer formulates the following conclusions:

(1) That the *Spirochæta pallida* is rarely found in syphilitic placentæ, and then only after long and tedious search.

(2) That the anatomical changes observed in the placenta are the result of toxins produced by the *Spirochæta pallida* in fœtal organs, and not to the immediate effect of the organisms upon the villi themselves.

(3) The placenta is not the nidus of infection. The fact that the *Spirochæta pallida* is never found in the maternal portion of the placenta but only in the blood-vessels and stroma of the fœtal villi would suggest that the placenta offers greater resistance to the invasion of the organisms, which is probably due to the steady flow of antibodies or immune substances from the mother through the maternal circulation.

S. E. D.

ADIPOSIS DOLOROSA: A CLINICAL AND PATHOLOGICAL STUDY, WITH THE REPORT OF TWO CASES WITH NECROPSY. GEORGE E. PRICE. (*Amer. Journ. of Med. Sci.*, May, 1909.)

THE writer gives an account of his two cases and a short history of the condition to which the name of "adiposis dolorosa" was given by Dercum in 1892.

It is well that a critical review of the reported cases should be undertaken, as the name has been used for various conditions very distinct from that originally mentioned by the author of the name.

Dr. Price's first case was a woman, aged 57 years, who was admitted to the alcoholic ward of the Philadelphia General Hospital in November, 1907, and subsequently transferred to Dr. Dercum. On admission she was in a semi-stuporous state, with a temperature of 97° F., pulse 110, respirations 30. There was evidence that she had taken alcoholic drinks in considerable quantity, especially during her present illness, for the purpose of relieving her pain. She had had severe pain in the stomach and vomiting since March, 1907, and on several occasions had vomited blood and passed blood from the bowels. For some weeks she had been confused and delirious, and complained of tenderness in the extremities. She was a very corpulent, elderly woman, the breasts pendulous, the abdomen markedly adipose, the skin of the abdomen and chest smooth and elastic, whilst the skin of the legs was rough and dry. Marked tenderness was present all over the body, and did not seem to be limited to the course of the large nerves. Picking up a fold of the skin caused an outcry of pain, and touching any part of the body except the face caused an outcry of pain also. There was evidence of dilatation of the heart, but of no paralysis. There were two large bed-sores, and soon there developed large bullæ on the inner surface of the left leg, on the left knee, and on the inner surface of the right leg other bullæ developed. The stupor gradually deepened, and she died ten days after admission.

The autopsy showed fatty infiltration and degeneration of the heart, slight fatty infiltration of the liver; the subcutaneous fat of the body was greatly increased in the region of the umbilicus, being 6·5 cm. in thickness. A careful examination was made of the nervous system, which showed no special changes. The thyroid gland, on microscopic examination, showed that there was marked increase of connective tissue in its right lobe, many of the acini being small. In the left lobe many of the acini were enormously enlarged. There were numerous areas of round-celled infiltration throughout the gland. The hypophysis cerebri, which seemed normal to the naked eye, showed areas of round-celled infiltration in the glandular portion with degeneration of many of the cells. The adrenal glands presented no abnormalities. The ovaries were sclerosed. The nerve filaments of the fat presented both interstitial and parenchymatous inflammatory changes.

The second case was also a female, aged 48 years. On admission she complained of pain and swelling in the right foot, so that she was unable to stand, severe pain in the occipital region, extending to the forehead, photophobia in both eyes, and lacrimation, especially in the right. On the second day after admission she had a severe attack of Herpes labialis. The family history seemed to show that a good many members of her family were stout people. The patient herself had always been "large."

Improving in her health she was discharged in December, 1903, but was readmitted in March, 1905. She was then noted to be an extremely large woman, weighing 308 lb. The superficial fat on the legs was sensitive to palpation. The condition of her heart and blood-vessels showed much weakness; she frequently became markedly cyanosed, often suffered from attacks of dyspnœa, and the heart's action was irregular. Gradually she became weaker, and died April, 1905.

The autopsy revealed marked cardiac hypertrophy with degeneration, chronic nephritis, chronic adhesive pleurisy, in addition to œdema and congestion of the lungs, fatty infiltration and congestion of the liver.

The thyroid gland was decidedly larger than normal, particularly the right lobe, the middle lobe distinctly indurated. Considerable enlargement and dilatation of many of the acini of the right lobe was noted, filled for the most part with colloid material. The hypophysis seemed normal, with the exception of two small areas of round-celled infiltration in its glandular portion. In this case, as in the previous, the nervous portion of the hypophysis showed numerous cells resembling the glandular cells of the anterior lobe, irregularly arranged, without any enveloping connective tissue. The fatty tissue showed no important alteration except in amount. Dr. Dercum saw both these cases and agreed with the diagnosis.

Dr. Price defines the cardinal symptoms of the disease as being: first, fatty deposit; second, pain; third, general asthenia; and fourth, psychic phenomena. He goes on to give some account of the disease, as drawn from already described cases, and eventually feels inclined to agree with the classification into three groups suggested by Vitaut, depending upon the arrangement of the adipose deposit: nodular, circumscribed diffuse, and generalised diffuse. Among the vaso-motor phenomena there appear to occur anidrosis, irregular flushings, cyanosis of the extremities, transitory œdema, and spontaneous hæmorrhages from the nose, stomach, and uterus. Among trophic changes observed are ulcerations, the formation of blebs and bullæ, arthritic and bony changes.

The diagnosis should be based chiefly upon the two symptoms—accumulation of adipose tissue, and the presence of pain upon manipulation of these deposits. In simple lipomatosis there is no pain, and the general symptoms of Adiposis dolorosa are absent. From multiple neuritis the diagnosis can be made by the absence of pain and tenderness over the larger nerve-trunks, or by the absence of muscular wasting, commensurate with the intensity of the pain. The evidence of relationship between degeneration of the thyroid gland and this condition is discussed, and also the possible connection between the hypophysis cerebri and other ductless glands with this peculiar disease of metabolism.

Dercum cites one case of cure—the only cure reported—following the use of the extract of thyroid gland; other cases have apparently improved by this method of treatment.

A good bibliography of the literature of the subject is given in this paper.

J. G.

ON THE PATHOGENESIS OF LICHEN SCROFULOSORUM. Nobl. (*Derm. Zeitschr.*, xvi, Ht. 4.)

The author showed at the Vienna Dermatological Society five cases which although apparently cases of clinically typical Lichen scrofulosorum, were in reality examples of reaction of the skin after the inunction of ointment containing tuberculin. This reaction may be named the "percutaneous reaction." It was originally described by E. Moro, who extended the work of Pirquet, and showed that the percutaneous reaction had a definite and practical diagnostic value, owing to the extraordinary sensitiveness of the skin of tuberculous patients to the specific stimulation. Moro has, in addition, described the development of the tuberculin ointment reaction into an exanthema.

Each of the author's five cases was the subject of tuberculous disease, either of glands, bones, or skin. In each case he rubbed in a 10 per cent. ointment of old tuberculin into the skin of the left breast. In each case there was a local eruption. Within about twenty-four hours there appeared a crop of soft nodules, about the size of poppy-seeds, which stood out above the level of the area rubbed and extended beyond its limits. After three or four days the nodules desquamated and dried up into smooth brownish scabs. Now, although lichen eruptions vary very markedly in every way, one can scarcely say that they are very similar to the initial stages of the percutaneous reaction. With the later skin changes of the reaction it is a different matter. These in their course and slow retrogression, often lasting over five weeks or more, show many points of resemblance to the lichen, especially in the accentuation of follicular keratosis. Moreover, the eruption extends far beyond the site of local reaction, and may become generalised. Owing, however, to the great variations and fluctuations in the structure of the clinical lichen, it is difficult to deduce from a comparison of pathological and anatomical appearances the identity of the percutaneous tuberculin reaction with the condition found in Lichen scrofulosorum. At the same time it is difficult, for the same reasons, to indicate the definite points of difference between the two. One thing alone remains certain, that the pathological picture afforded by the percutaneous reaction has no resemblance to a tuberculous lesion or to a tuberculide, but is a process of a far more acute type. Perhaps the most conspicuous point of distinction from Lichen scrofulosorum is the tendency of the artificially produced eruption to pustulation. Otherwise the course of the eruption is much the same in both cases—slow, associated with perifollicular thickening and keratosis, and pigmentation, gradually tending to fade away, leaving no trace behind. A curious point of parallelism between the two eruptions is that while in cases of severe tuberculous infection, such as advanced phthisis or miliary tuberculosis, the skin loses its capacity for specific reaction to tuberculin, similarly Lichen scrofulosorum is never met with in severe tuberculous cachexia. Still another point of resemblance between the two conditions was that, when the artificially produced eruption had almost died away it could always be reproduced by a subcutaneous injection of tuberculin, and a similar treatment invariably caused an acute exacerbation in a case of Lichen scrofulosorum. Finally, in healthy, non-tuberculous animals, Landouzy and Queyrat have been able to produce eruptions similar to those of Lichen scrofulosorum by the inunction of virulent cultures of living tubercle bacilli. In fact, the explanation which the author offers of the origin of Lichen scrofulosorum is, that it, like the percutaneous reaction, is a manifestation of purely toxic origin, seeing that in the main the two conditions agree, not only clinically, but in their histological and pathological aspects.

H. D.

A CHRONIC ITCHING PAPULAR ERUPTION OF THE AXILLÆ AND PUBES; ITS RELATION TO NEURO-DERMATITIS. Prof. JOHN A. FORDYCE. (*Journ. of Cut. Dis.*, May, 1909.)

FORDYCE describes an interesting case in a woman, aged 48 years, without medical history of moment, except perhaps that she suffered from constipation and headache for the past eighteen years. The eruption was first seen at its height at about eight months' duration, and was limited to the hairy parts of the axilla and pubic regions. It began as an intense itching and burning followed by papules, and two months later the pubes became affected. The papules were translucent, smooth, shiny, hemispherical, and varied in size from a pin-head to a small lentil, each with a tiny central puncture and a minute whitish plug. On stretching the cutis a moniliform distribution was manifested, following the lines of the skin. The entire area was of a pinkish hue. The hair became dry, brittle, lustreless, and fell out, but to a less extent over the pubes, but in the latter site the excoriation of the papules was more marked. The burning and itching destroyed her sleep. She perspired, especially about the face, and some indican was detected in the urine.

Microscopically, tissue from the axilla showed the lesion to consist of an acanthosis, most marked about the sweat-duct, and a hyperkeratosis in the form of a plug filling the mouth of the duct. Œdema, intra- and extra-cellularly, was present, and minute vesicles formed contiguous to the duct. The sweat-coils were dilated, and some tubules contained partial or complete casts with parenchymatous dilatation of the lining cells. An infiltration of lymphocytes and plasma-cells sheathed the vessels, and was aggregated about the coils, and a proliferation of fibroblasts was noted. The capillaries were dilated with blood. In places there was mucoid degeneration of the collagenous tissue.

The condition proved intractable to treatment for months, even to X-rays. Bathing at the seaside seemed to improve her, and the hair was growing again, but she was not quite cured as far as the axillæ were concerned.

The author says the case is almost the exact counterpart, clinically and histologically, of one reported by himself and Dr. G. H. Fox (*Journ. Cut. and Gen.-Urin. Dis.*, vol. xx, 1902). Dr. Fox mentioned another case, and showed the author a fourth.

Dr. Fordyce includes these cases with the *nevrodérmite chronique circonscrite* of Brocq (lichenification), but finds a difficulty to account for the localisation. As to the ætiology, possibly an eliminated toxin might be responsible, and the rubbing and scratching came into play. The paper is well illustrated. We think many will hesitate to pronounce the condition a lichenification, as we know that state in this country.

T. C. F.

CASE OF GOUNDOU IN THE WEST INDIES. C. W. Branch.

(*Journ. of Trop. Med. and Hygiene*, March 1st, 1909, p. 63.)

The patient, a negro female labourer, was admitted to the Colony Hospital, St. Vincent, suffering from anæmia and goundou. She had no scars or other evidence of syphilis, but that disease could not be wholly excluded. On each side of the nose was a smooth, painless, ovoid exostosis of the superior maxillary, the right being the larger. These could be felt by the finger in the nostril, and had every appearance and character of goundou. It was the first case of the kind which the writer had met in fourteen years' experience in the West Indies. He did not consider that this rarity of symmetrical exostosis of the face among a people deeply infected with syphilis was a valid argument against the syphilitic origin of goundou, and suggested that it might correspond to "gangosa" of the Philippines and parts of the West Indies. Against this theory is the view that goundou as well as gangosa, are related to yaws, and are types of tertiary yaws.

J. M. H. M.

THE BRITISH
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SEPTEMBER, 1909.

A FURTHER CONTRIBUTION TO THE STUDY OF THE ENDOTHRIX TRICHOPHYTA FLORA IN LONDON, ILLUSTRATED BY A COLLECTION OF CULTURES AND PHOTOGRAPHS.*

By T. COLCOTT FOX, M.B.

In this communication I propose to record my experience derived from cultivations of *Endothrix trichophyta* causing ringworm of the scalp of children in London. Following my investigations made in association with Dr. Blaxall,† I continued to make cultivations from time to time when cases presented, and since the year 1901, when appointed Visiting Dermatologist to the Ringworm Schools of the Metropolitan Asylums Board, I have availed myself of the opportunity to study the subject on a much larger scale.

SOURCES OF THE MATERIAL.

Although scalp ringworm is very prevalent in London amongst something like 750,000 children, attending about 941 elementary day

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[*] This paper was written before I had the advantage of reading Dr. Sabouraud's memoir, entitled, "Le trichophyton à culture acuminée et le trichophyton à culture cratériforme" (*Archives de Parasitol.*, Par., 1908), xii, p. 40, but I have added several footnotes in connection with it.

[†] "An Inquiry into the Plurality of Fungi causing Ringworm in Human Beings," *Brit. Journ. Derm.* 1896, viii, p. 241; "On the Plurality of Ringworm Fungi," *Path. Soc. Trans.*, Lond., 1897, xlviii, p. 301; "Notes on Two Cases of Tinea circinata," *Brit. Journ. Derm.*, 1898, vol. x, p. 37; "Some Remarks on Ringworm, with Special Reference to the Early Stages of Attack of the Hair and the Production of Pustular Inflammation," *Brit. Med. Journ.*, 1899, vol. ii, p. 1529 (a small collection of *Endothrix trichophyta* cultures shown).

schools, and amongst still younger children, the *Endothrix trichophyton* ringworms are only occasionally met with in hospital and private practice, perhaps in less than 5 per cent. Amongst children chargeable to the Poor Law the proportion of *Endothrix trichophyton* ringworm is much larger, as it is markedly a disease which is apt to get a footing in institutions where children are collected. The following table sets forth the class of institution from which the children are admitted to the Metropolitan Asylums Board Ringworm School. No large epidemics were, however, observed.

STATEMENT SHOWING THE NUMBERS OF CHILDREN, EXCLUSIVE OF THOSE RELIEVED AS INSANE OR AS CASUAL PAUPERS, WHO RECEIVED INDOOR RELIEF ON JANUARY 1ST, 1906, IN THE METROPOLITAN WORKHOUSES AND OTHER INSTITUTIONS TO WHICH PAUPER CHILDREN MAY BE SENT.

Institution.	No.
(*a*) In establishments under the control of the Guardians:	
Workhouses and infirmaries	3,084
District sick asylums	156
District or separate schools	7,878
Cottage and other homes for children	3,876
Children's homes and schools belonging to the Metropolitan Asylums Board	1,777
(*b*) In establishments not under the control of the Guardians:	
Institutions for blind, deaf, dumb, epileptic, etc.	133
Hospitals and convalescent homes for the sick	95
Training and industrial homes not included under previous headings	3,044
Other institutions	26
Total	20,069

Many children, of course, come under the care of the Poor Law Guardians already affected with ringworm, but others contract the disease when in the care of the Poor Law authorities by attendance at the elementary schools of the Metropolis and otherwise. For a time, after the installation of the first ringworm school (1901–2) by the Metropolitan Asylums Board, 40 per cent. of the cases admitted were due to *Endothrix trichophyta*, which is evidence of the nuisance this ringworm must have been; 30 per cent. in 1903; 15·5 per cent. in 1904; 14·8 per cent. in 1905; 14·6 per cent. in 1906; 13·3 per cent. in 1907; and 14·1 per cent. in 1908 up to the end of September.*

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* Sabouraud, in 1908, stated that about 33·3 per cent. of scalp ringworm in children coming under his care in Paris were due to microspora and 66·6 per cent. to trichophyta.

I have had under observation at these schools, to the end of September of the present year, 639 cases of endothrix trichophytosis.

SYMPTOMATOLOGY.

Endothrix trichophyton ringworm is, as a rule, easily recognisable clinically, unless defaced by treatment. The prevailing *pattern* on the scalp is the formation of slightly scaly macules on which diseased stumps may be found disseminated amongst some healthy hairs which have escaped infection. The diseased stumps on these macules may be single or in groups of two or three, up to a dozen or more, and in children with long hair the disease often escapes notice, especially in slight cases, or is regarded as a little pityriasis. Occasionally, however, a more obvious microsporon pattern is seen, characterised by one or more comparatively large original patches and disseminated smaller macules of later evolution. Such large patches often, however, result from the confluence of crowded smaller ones. Illustrations of these phases have been published by me in the *Practitioner* (April, 1903). In my experience the occasional microsporon pattern is not characteristic of any one of the *Endothrix trichophyta*, for I have noted it on occasion in all. Any condition approaching kerion is certainly most exceptional, but I have recorded such cases with a larger parent patch and smaller secondary ones from which the common cream-coloured crater was grown,* and I now show the photographs of these cultures.

In the next place the *diseased hairs* are frequently more or less hyperpigmented in English children, although I have to do with a number of difficult cases in young children with almost colourless hair, in whom the pigmentation is little marked. Where the stumps are not pigmented, and especially where there is a large patch, the diagnosis from microsporon ringworm may be very difficult clinically. The pigmentation, I take it, is due in a large measure to the breaking up of keratin. Another striking feature of the diseased stumps is that the extra-follicular portion is so disorganised that it has not the strength to grow straight up through obstructing scales, but turns on itself and becomes like a compressed corkscrew, presenting, when the stump is pigmented, the appearance of a black dot, often partially obscured by the scales. This black-dot appearance of the diseased areas has given rise to the name "black-dot ringworm." I think this peculiar behaviour of the hair is favoured by the frequent tendency of the fungus to concentrate on one half of the extra-follicular portion of the hair. In treated cases, which are kept clean and comparatively free from scales with the hair comparatively short, the stumps tend to grow up straight, and, in very fair-haired children, require an expert to distinguish single diseased stumps.

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* "Some Remarks on Ringworm," *Brit. Med. Journ.*, 1899, vol. ii, p. 1529. I have kept the cultures from some of these cases.

Though Tinea circinata of the glabrous skin is not uncommon, I have not found it of greater frequency when the children come under my observation than the ephemeral macules and circinations of microsporon ringworm. I have only met with two *nail* cases at the schools, one in a boy with scalp endothrix ringworm, and one in an attendant nurse.*

Microscopical Examination.

I have systematically examined the diseased hairs in each case under the microscope after soaking them in 40 per cent. solution of potash, and in a few cases, especially where defaced by treatment, I have had to resort to the microscopical examination for a distinction of the ringworms from microsporon. It is important to secure the whole stump if possible, in order to see completely the localisation of the mycelium, and further because the fungus tends to be massed in the extra-follicular portion, and the character of the chains is often best studied in the intra-follicular portion, though even here massing often occurs. The stumps are so fragile it is difficult to extract them entire, but I generally obtain some in the course of treatment. Before the introduction of the X-ray method I needled these cases with croton oil, and had no trouble in extracting entire stumps enclosed in the root-sheath. I have stained hairs by Adamson's method in very many of the cases, and found no great difficulty in obtaining a specimen of the whole fungus with the epithelium dissolved away or decolourised.

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* Sabouraud says, in his last paper, that although the ringworms caused by his *Trichophyton crateriforme* and *Trichophyton acuminatum* have clinically many features in common, they cannot be confounded by an attentive observer. The crateriform infection differs from the acuminate even more than from the microsporon. He goes on to say that these distinctive features are more impressed on one in a school epidemic and are less distinct in sporadic cases, especially when treated, but even then the expert can decide in most cases. In the crateriform trichophyton scalp ringworm the stumps are a yellowish grey in colour, paler than the normal hairs on the same head, less white than the microsporon, though easily confounded; they are broken off not more than 2 mm. to 4 mm. from the scalp, lying about in different directions on a clean scalp, or entangled in heaps of scales where the latter exist. The acuminate causes the stumps to be pigmented and broken off close to the scalp and to simulate the appearance of comedones. Sabouraud called this form "peladoid" formerly. Other hairs are incurved in the follicles and more or less obscured by scales, simulating Keratosis pilaris. This, then, is the ringworm to which the name "black dot" applies. This clinical distinction between these two forms of ringworm I must confess I have not fully recognised, and must give it further attention.

The fungus, in my experience, in *Endothrix trichophyta* is strictly located in the hair after the stage of invasion, but, of course, it often bursts out through the disintegrated hair. Sabouraud mentions the fungus giving the violet culture as not so strictly endothrix, but endo-ectothrix sometimes, and Adamson has demonstrated a specimen to me; but it is not in accordance with my own experience. A marked difference in the luxuriance of fungus growth can be noted in different hairs from the same case. The tendency of chains to break up more easily in one kind of fungus than another is probably true in the main, but I have not been very much impressed by this phenomenon. Lastly, the shape of the mycelial segments varies in different kinds of trichophyta, and the size is pretty constant in some, but varied in others. I may say that after a long experience of microscopical examination I find myself very insecure in many cases in predicting what the culture will turn out to be.*

CULTURE MEDIUM.

It has always been my intention to work with a medium identical with that used by Sabouraud, because he had established a good distinguishing medium for the cultures, and it was desirable to be able to compare my results in London with his in Paris. Some years ago Dr. Sabouraud very kindly enabled Dr. Blaxall and myself to obtain the proper ingredients, but I believe the original maltose he used came to an end, and I went on inadvertently using maltose which I supposed was the proper thing. However, I realised later that my maltose was darker than that used by Dr. Sabouraud and rather acid, and he, with his usual kindness, put me in the way of obtaining the maltose which he now uses. I was delighted to find that the differentiation of the cultures was practically the same on both the media I used, and so my earlier work was not lost.

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* In his 1908 memoir on these *Endothrix trichophyta* Sabouraud points out again that in *Trichophyton crateriforme* the mycelium is composed of *carré* segments arranged in chains, or ribbons, resisting breaking up. whilst *Trichophyton acuminatum* does not show such a fixed type, but tends to grow in chaplets of roundish or oval segments, sometimes *bosselés*. They get rounder and more dehiscent with age. He adds that his earlier sharp distinction between the fragility of the mycelium was in a certain degree schematic, and is not constant enough to ensure a certain diagnosis in all cases. Sometimes the distinction is very subtle.

I have cultivated the fungus in test-tubes as a matter of routine in a large proportion of the cases seen, and practically all in recent years. I plant on the medium portions of the intra-follicular part of the hair by preference, and, with few exceptions, pure growths were obtained. I inoculated the tubes in my own house, and in the warmer months let the cultures grow at the ordinary temperature of the room without india-rubber caps to the tubes; in the colder months I placed the tubes in a protecting case in the fender at the side of the fire and out of the direct heat-rays. Experience soon teaches the influence of varying depths of medium and degree of moisture, even in the same tube. As a rule, a perfectly satisfactory culture is obtained in a fairly capacious test-tube allowing the symmetrical growth of the fungus in a succulent medium. In a proportion of cases I have reinoculated one of the growths in the test-tube on to a Petri's dish, and occasionally on an Erlenmeyer's flask, in the pathological laboratory at Westminster Hospital. The Petri dishes, however, are very liable to become contaminated with penicillium and other organisms. Further, I wish to point out that, in my hands, although a minority of the reinoculated cultures in the Petri's dishes correspond in simplicity of form with those in the tubes, the majority take on much more elaborate forms, as my collection ilustrates.

The Mycology.

I regret that my occupations have prevented me from allowing the necessary time for the careful study of cultures in the hanging drop and to make animal inoculations, but I have made many Klatsch specimens with more or less success.

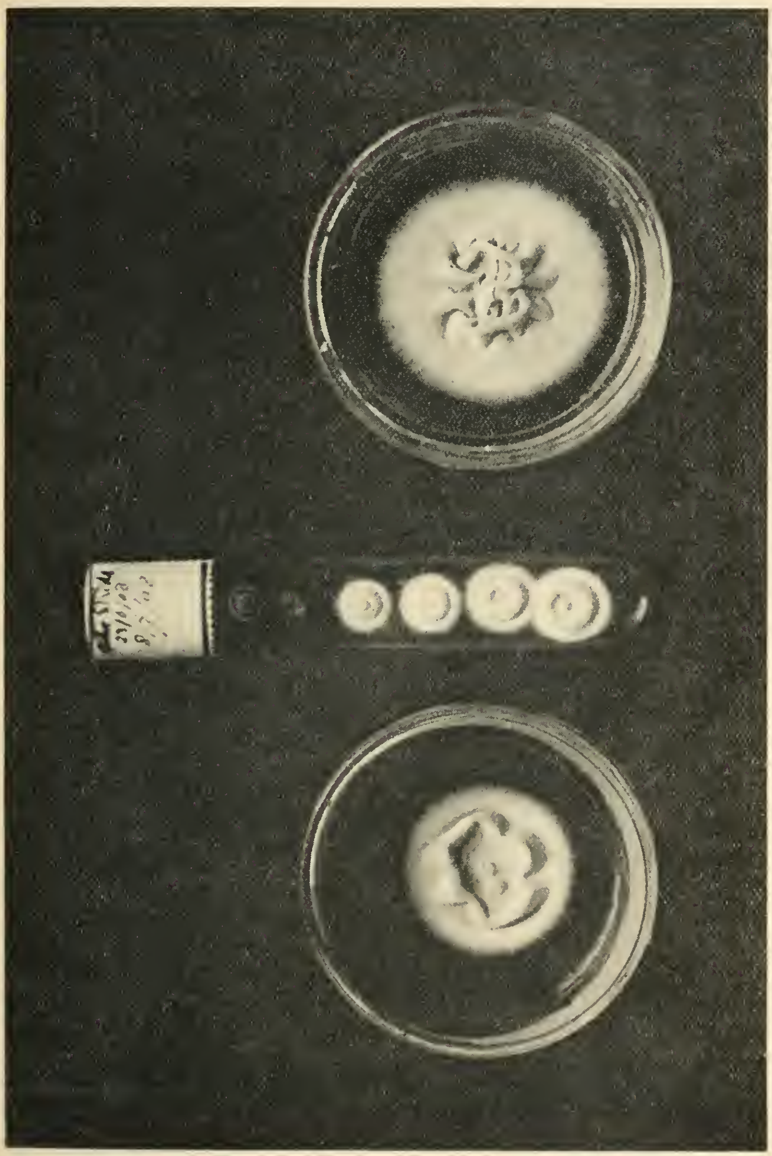

FIG. 1.—The cream-coloured crater (*Trichophyton crateriforme*, Sabouraud), showing the simple formation in a test-tube and elaboration on Petri dishes.

Conclusions.

My experience goes to show that the *Endothrix trichophyton* flora in London is very similar in the main to that of Paris. Practically all my cultures fall into one of four groups—viz. a cream-coloured or white crater (*Trichophyton crateriforme* of Sabouraud) in about 38 per cent. of the cases; a primrose-coloured crater in about 21 per cent.; a grey yellowish culture in 26 per cent., which it took me some time to definitely identify with the *Trichophyton acuminatum* of Sabouraud; and a violet culture, the *Trichophyton violaceum* of Sabouraud, in 15 per cent. I have also obtained a few cultures which I could not surely identify with any of the above. The violet culture is quite a distinct type, but the other three are, I believe, typically crateriform, and have certain common characters in different proportions, such as an admixture of yellow colour, a tendency to form craters, and a taking on of certain complications of form under special circumstances.*

The Cream-coloured or White Crater (*Trichophyton crateriforme*, Fig. 1) starts in a tube with a little ball of white fluff, and, as it enlarges into a dome with a central knob, becomes closely powdered, and its central part finally sinks with almost unfailing constancy into a simple crater with a plain, thick wall with rounded summit, a steep inside surface, and a slightly sloping outside face, surrounded by a narrow zone of rays which are powdered on the inner half. In a majority of cases the crater is absolutely simple, but even so, now and again the surrounding wall of the crater may be flat topped† or very narrow. The crater wall may be sinuous, or, when this feature is exaggerated, it looks as if pinched in places to form more or less long processes protruding externally. Sometimes buttresses form on the external wall surface, or the internal surface may be sculptured,

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* Of the *Endothrix trichophyta* of the scalp, Sabouraud (1908) says he finds 50 per cent. are due to the trichophyton giving a crateriform culture, 30 per cent. are due to a trichophyton giving an acuminate culture, 15 per cent. are due to a trichophyton giving a violet culture, and the remaining 5 per cent. are pseudo-crateriforme, and not to be confounded with the common cream-coloured crater. He recognises four of these pseudo-crateriform cultures and one pseudo-acuminate.

† See "On the Plurality of Ringworm Fungi," *Path. Soc. Trans.*, 1897, vol. xlviii, Pl. xii, fig. 1.

and lastly, radiating incisures may form. I call attention specially to these modifications, because, though exceptional in tube cultures, some are almost the rule when *Trichophyton crateriforme* and *Trichophyton acuminatum* and the primrose culture are reinoculated on Petri dishes. Sabourand, in 1894, figured a buttressed crater as typical of *Trichophyton crateriforme.** I think this culture was made on a proof medium containing a maltose (*"usine de Creil"*) which is not now in use. Rarely a little flaking off of powder may occur on the wall or floor of the crater, giving a speckled appearance, which may be seen on occasion in all the craters, especially the primrose. The colour is of especial interest in connection with my "primrose crater." Sabouraud notes it as cream white, and says the centre of the culture may tend to get ochreous in old growths. I have frequently seen the centre of the growing culture a little primrose, as Sabouraud says, but never so pronounced or diffused as in my "primrose crater." Reinoculated on Petri dishes or Erlenmeyer's flasks, the culture generally tends to a greater elaboration of form, of which indications have already been mentioned as occurring in the tubes. So great, sometimes, is this elaboration of structure, that one would hardly think it could be the same fungus unless one had already grown it in the simple form in tubes. In this connection I may refer to figs. 5 and 6, plate viii, and fig. 1, plate ix, in the *British Journal of Dermatology* for 1896.† Microscopical examination of the hairs shows the mycelium giving these cultures to be resistant, with *carré* segments, but the fungus tends to be massed in the extra-follicular portion of the stump, and sometimes at the sides.

THE PRIMROSE CRATER (Fig. 2) has greatly interested me, as it is not described by Sabouraud, unless it is his *Trichophyton crateriforme.*‡ He has not, however, discussed the subject further. In a tube the commencing growth is a little fluffy, but soon a central red nodule appears, which the down is insufficient to hide as a rule, and the rest of the culture has a delicate but marked primrose colour. This state of things remains as the culture increases in bulk and becomes

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* Reproduced as fig. 114 in his article on "Trichophyties" in Besnier, Brocq et Jacquet, *La Prat. Derm.*, 1904, vol. iv, p. 484.

† In his recent work on the fungus (1908) Sabouraud figures elaborated patterns, presumably obtained in Erlenmeyer's flasks. He also refers to polymorphic growths, which Blaxall and I long ago recognised.

‡ Figured as a speckled crater in Besnier, Brocq et Jacquet. *La Prat. Derm.*, 1904, vol. iv, p. 485, fig. 116, and as a variety of *Trichophyton crateriforme.*

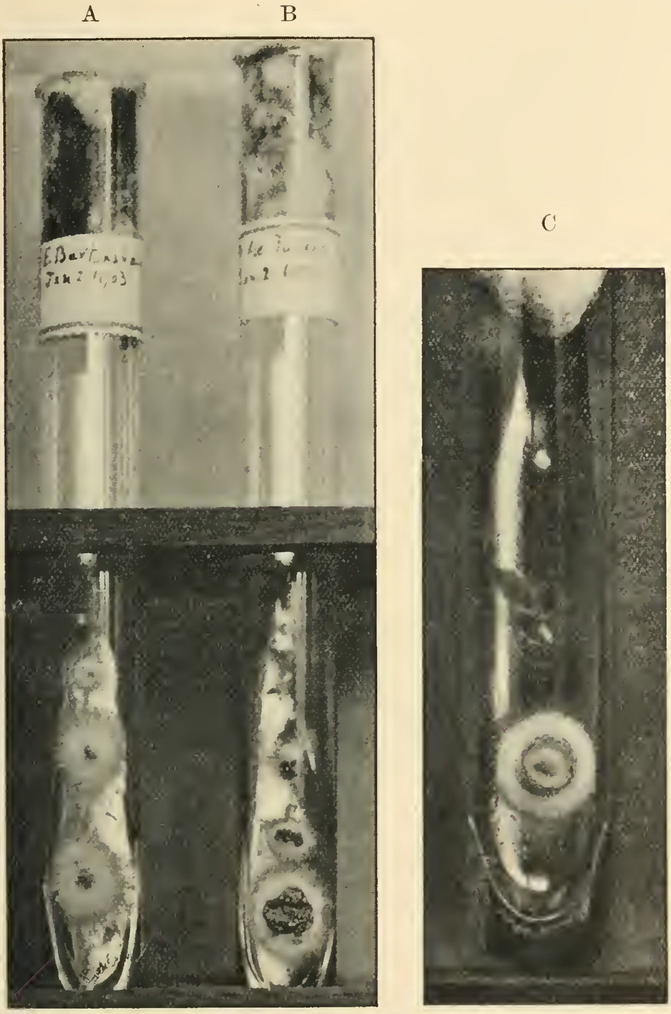

Fig. 2.—The primrose crater. A. Early stages of primrose growth with central red knob. B. Illustration of frequent formation of a speckled crater. C. Primrose crater on the plan of the cream-coloured crater.

powdered, and the primrose colour is preserved. A central crater forms, and two features are common—viz. the centre of the growth is often but scantily powdered and assumes a speckled appearance, and the base of the crater is often irregular, and sometimes like a coil of sausages. The wall of the crater may be irregular and broken up by radiating incisures as in other craters. I have repeatedly cultivated the fungus from a given case, and obtained the same picture. Occasionally the down and powder are sufficient to obscure the underlying surface, and then the culture is remarkably analogous to the cream-coloured culture except for its yellower colour. Reinoculated on Petri dishes or Erlenmeyer's flasks we see an elaboration of build, as in other craters, but seldom, in my experience, so elaborate as in some cases of *Trichophyton crateriforme* culture. You will observe in my collection, that a special pattern is repeated over and over again in the Petri dishes, and I show you four such cultivations made from one case (Maria D—). With this experience I cannot but conclude that it is a special culture, and if it be so recognised perhaps it might be distinguished from the cream-coloured culture (*album*) by the term *flavum*.* Microscopically I cannot distinguish the fungus in the hairs from Sabouraud's *Trichophyton crateriforme.*

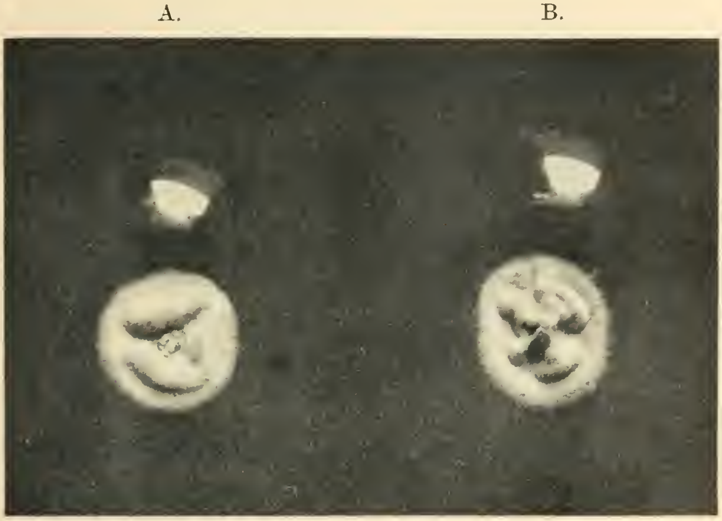

Fig. 3.—The grey-plumed crater, grown on very large tubes. A. Imperfect crater with radiating incisures. B. Acuminate phase suggesting the name *Trichophyton acuminatum* (Sabouraud).

The Grey or Grey-yellow Culture (Fig. 3) also puzzled me for a long time, for the peculiar plumed centre was not impressed on my mind by the study of Sabouraud's earlier publications, and I so frequently obtained a crater instead of a flattened cone. But I think there can be no doubt it is the fungus named by him *Trichophyton acuminatum.* It is a very special culture. In tubes the growth starts with a gelatine-like knob, from which thorn-like spines rapidly project. As the growth extends a down covers it, and the spines, now occupying the central part, become feathery like pampas grass—a very striking and characteristic feature. Then the culture rapidly gets powdered and assumes a dirty grey or greyish yellow colour, which is seen to be very characteristic in a collection of cultures. You will see in my collection that there is a pronounced tendency for a central crater to form with the plumes in the centre. The rounded wall of the crater sometimes assumes a dark dove-colour, contrasting with the lighter rays. There is probably not the same inevitable crater formation as in *Trichophyton crateriforme*, but still it is very frequent. When the crater is not formed the culture remains as a flattened cone with indications of radiating incisures, as figured by Sabouraud,* and suggesting the name *Trichophyton acuminatum*. I believe these specimens were obtained on proof medium containing a special maltose (*usine de Creil*), but he has not altered his conclusions. Had I been the first to observe the culture I think I should have called it the *grey-yellow pampas grass* or *plumed crater*.† Reinoculated on

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* Sabouraud has kindly suggested to me the name *T. sulphureum.*

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* "Les trichophyties humaines Atlas," 1894, figs. 92–97, and Besnier, Brocq et Jacquet, *La. Prat. Derm.*, 1904, vol. iv, p. 486.

† In his 1908 paper Sabouraud says the acuminate culture begins under the form of a "miniscule calotte hémisphérique, surmonté de trois ou quatres plumets bizarres, frangés, pennés, resemblent aux palpes de certains Papilloms et Hannetons et qui persistent plus tard sur la culture vielle mais en s'attenuant." He

Petri dishes or flasks we see the same principles of elaborated growth as in other craters, the wall a dark grey or yellowish grey, and the inner half of the rays covered with a lighter grey powder. The central plumes are often lost sight of or little conspicuous. Some cultures, however, remain quite simple, as in the tubes. Microscopically I have noticed a tendency in the mycelium of the hair to break up and mass. The segments are often unequal in size and less truncated than in *Trichophyton crateriforme.*

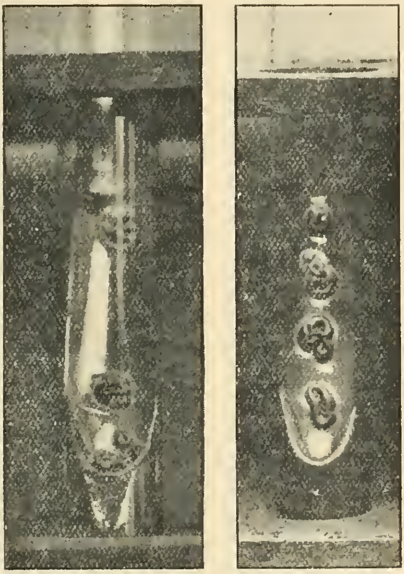

FIG. 4.—*Trichophyton violaceum* (Sabouraud), growth on tubes.

The VIOLET CULTURE (Fig. 4) due to *Trichophyton violaceum* (Sabouraud) is also very characteristic and entirely different from the others. Here there is no tendency to crater formation. The growth, in my experience, tends to be slow. In tubes it starts with the formation of a little gelatine-like knob, very rarely with indications of the projecting spines seen in *Trichophyton acuminatum.* As the growth enlarges it keeps its gelatine-like appearance without down formation

holds to his opinion that the typical culture has the form of a flattened cone, marked out in sections by radiating channels, more or less deep. When the cultures age these channels often expand and the culture becomes lacunar, phenomena which young cultures can present when their normal growth is prevented. See his new illustrations.

and becomes corrugated or cerebriform in marking. The central part is generally marked off from the rest and raised to form a very flattened cone. The short peripheral rays are submerged. Then the culture gradually assumes a deep violet colour. I may mention that I left a beautiful deep violet culture on a Petri dish in a window exposed to the sun, and the colour faded away. These cultures are very apt to grow white down at parts, which I take to be polymorphic growths. Reinoculated on Petri dishes the cultures are similar.

Beard ringworm is not of great frequency in my practice, but I have cultivated the *Trichophyton violaceum* from about a dozen. Indeed, in my experience this fungus is the common cause of beard ringworm in London. Clinically it has the general clinical characters of other *Endothrix trichophytons*. Even when the beard is shaved the little macules with black dots are easily recognised by the experienced observer. I may say that Dr. Radcliffe-Crocker kindly gave me some diseased stumps from a sycosiform beard ringworm which gave a violet culture. Microscopically the fungus in the hairs may be seen in chains with segments tending to be round or oval, but is often massed. The segments also may vary in size.

The **President** (Dr. **Radcliffe Crocker**) said the Section was to be congratulated upon having such an important paper brought before it. It showed the advantage of having papers at the meetings as well as clinical cases, and the last three contributions had been very encouraging, dealing as they had done with comparatively new work. Dermatology was also fortunate in that the enormous mass of clinical material provided by Poor Law children had fallen into the hands of such an able and enthusiastic dermatologist as Dr. Colcott Fox, who had been willing to devote a large amount of valuable time to the research which he had just communicated.

Dr. **Adamson**, speaking of the violet endothrix, said he was interested to hear Dr. Fox say that Sabouraud now acknowledged the violet endothrix as an ectothrix. He (Dr. Adamson) saw many beard cases; this year he had seen twelve cases of endothrix in the beard, and in all of them he was able to find a distinct spore-sheath outside the hair. He believed they were the same as the scalp cases, because in one case, that of a father, he had a violet culture in the beard, and his child had a scalp condition of the same kind. It was impossible to distinguish them in the cultures. He had never found ectothrix in the scalp in violet culture, only in the beard. In his experience the violet endothrix of the beard was often sycosiform. It appeared at first as a scaly ring, led to black dots and curled-up stumps, and often became inflammatory later on, big inflammatory nodules, but not pustules, forming.

Dr. **Pernet** said that ten years ago he published a paper in the *Lancet* on 130 cases of ringworm which he examined consecutively in University College Hospital Skin-Department, and in them he found that the number of endothrix cases was 4 per cent., which agreed very closely with the proportion found by Dr. Colcott Fox at Westminster Hospital. But the number of trichophyton endothrix cases which he (Dr. Pernet) saw was less than Dr. Fox saw. But although he cultivated on maltose agar, which he obtained from the Conjoint Laboratories, he never found a single case of violet trichophyton. He had examined many heads, both at Hospital and in private, but he had not yet come across the violet kind. Latterly, as the Conjoint Laboratory was closed, he used glucose agar, which perhaps Dr. Fox had also occasion to use; he did not know whether that made any difference. During his investigation he examined a number of cases of Tinea circinata, in both children and adults, and he found that the proportion of endothrix cases was much greater than in ringworm of the scalp. He did not know whether that agreed with Dr. Fox's experience at the Poor Law schools, and whether he had had occasion to cultivate from Tinea circinata as well. In the 130 cases mentioned there were differences in appearance in the craters and growths, and variations in coloration, but he did not attach great importance to that.

Dr. **Pringle** said that to praise any work of Dr. Colcott Fox in connection with ringworm was tantamount to painting the lily. The main point which occurred to him (the speaker) as a clinician was the great relative frequency with which Dr. Fox had encountered the trichophyton in comparison with the microsporon, and it was extremely interesting that that should accord with the later experience of Sabouraud. He admitted that he himself still taught at his hospital in accordance with the original doctrine that the microspora averaged 94 per cent. to 95 per cent. of all cases of ringworm of the scalp in London.

Apparently he was in error, and it seemed certain that he and his assistants must have altogether missed a very large number of cases of ringworm; it was therefore not unlikely that others had done so also. Unless there was some fallacy there must probably be a large number of cases of large-spored ringworm going about unobserved and untreated all over London. He frankly accepted Dr. Fox's results, and asked him whether, in the special circumstances and opportunities he had enjoyed, he had been able to account for the large percentage of large-spored cases he had observed in recent years and to trace their origin. Could they have been contracted in some way other than from child to child? Were there any special conditions which obtained in the institutions in which the cases were observed? Was an animal origin possible? If a large number of cases passed undiagnosed had Dr. Fox any idea as to what became of them? He was glad to hear the author say that uniformity of culture-results could only be achieved by using uniform media, and that that employed by Sabouraud was the most reliable. The last few sentences in the paper forestalled a question he had intended to ask—viz. whether he considered the trichophyton of ringworm of the scalp giving violet cultures to be identical with that commonly found in ringworm of the beard.

Dr. MacLeod asked Dr. Fox if he found that it was necessary to employ special maltose in making the medium to differentiate the various cultures, as he had succeeded in recognising three of the endothrix varieties described by Dr. Fox by using a medium obtained in London. In connection with Dr. Adamson's remarks, he said he had had a case of suppurating sycosiform ringworm of the beard from which he had obtained cultures of the purple type, similar to those demonstrated by Dr. Fox.

Dr. Graham Little asked Dr. Fox what proportion of the 639 cases which he had quoted were of alien birth. Also, had he noticed any general differentiation of alien ringworm from the ringworm common in English people? He had himself been struck with the difference in two skin-departments of which he had charge—at the East London Children's Hospital and at St. Mary's Hospital; the number of large-spored ringworm cases in the hospital in the East was distinctly in excess of those at the West End hospital. Also, had Dr. Fox any experience of change of colour in the violet cultures? Did they vary according to whether they were kept in the light or in the dark? He had found a variation which seemed difficult to account for except by change of light environment. With regard to Dr. Pringle's question as to what became of the cases which were not diagnosed, he had a curious instance of ringworm of the body which was so extensive as to recall Pityriasis rosea, which he had intended to bring that afternoon. There were a large number of circinate patches on the body of a child who had the microsporon fungus on the scalp. But within a week the body condition had cleared up and there was nothing to show. The fungus he obtained from the body was somewhat impoverished, and it cleared up without treatment; he could not explain why.

Dr. Whitfield also wished to ask what became of the undiagnosed cases of endothrix ringworm: did they die out? It was known that microsporon died out at the age of sixteen or seventeen, but he believed the endothrix ringworm, unless cured by treatment, never died out. He believed there must be a fair number of people going about with slight endothrix ringworm in the head. He had in mind the case of a gentleman who came from India, who said he had a scurfy head, and a ring in his beard every spring. When he saw the patient it was late spring and the condition was dying away. He thought it was ordinary pityriasis of the beard and head. But when he examined it carefully he noticed tiny hairs which contained the endothrix fungus, which he grew. The man was aged 50 years, and he said he had had it for twenty years. It probably started from "Dhobie itch." He thought cases of endothrix did not die out; hairs were missing here and there, and as age progressed the likelihood of infecting other people got less because hats were not exchanged as in childhood. He had had several cases of violet endothrix, but in the majority of his beard cases he had not found the endothrix of the violet colour. The first time he found it was in the scalp of an English child, and his diagnosis was favus until he grew it, and even when the fungus was grown it was very faviform in type. He concluded that Dr. Fox did not use glucose agar, and he, Dr. Whitfield, believed it was useless for those cultures; typical cultures were lost in glucose agar.

Dr. Colcott Fox, in reply, said it was not yet known whence the endothrix trichophyton was contracted, though the endothrices were being traced to various animals. Probably the endothrix existed in saprophytic form in Nature. In the cases he had seen it passed from child to child, but originally it must have come from some outside source. He thought the reason the condition of microsporon seemed less abundant in Board schools was that it formed a conspicuous patch, which in most cases was obvious, and was therefore treated. Endothrix was a more insidious condition, and was found in older children, and in the case of girls their long hair hid it, and thus it escaped treatment. That was why he saw a lot of it from workhouse infirmaries, etc. No doubt the cases would gradually be stamped out. As to whether the violet culture was the same in the scalp and in the beard, he thought that in some cases they were, as was probably the case in the instances mentioned by Dr. Adamson in father and child. There might be varieties of violet culture, but he had not distinguished between them. Some alien children were seen at the schools he looked after, but they were a very small percentage, and he did not think there was any considerable introduction of foreign ringworm amongst them. With regard to the medium, when one began to work at cultures one found how sensitive the fungi were to different media. In Paris, Sabouraud had established what was acknowledged to be a good medium by the distinguished men who worked at the Pasteur Institute, and therefore he advocated its use in England, so as to have a scientific basis for comparison of results.

THE METHOD OF DEMONSTRATING THE SPIROCHÆTA PALLIDA BY THE BLACK GROUND ILLUMINATION.

By J. E. R. McDONAGH, F.R.C.S.

Owing to the difficulties of diagnosing clinically the primary lesion of syphilis in its early stage, and since the spirochæta is now looked upon as being the cause of the disease, the detection of this organism confirms the diagnosis. Both the hanging-drop method and staining by Giemsa are very unsatisfactory means.

Finding the protozoon by the hanging drop requires a very experienced hand.

In a Giemsa preparation, although many spirochæts may be present, owing to their taking the stain so lightly one may have to hunt several minutes before finding one. The simplest, shortest, and at the same time the most satisfactory examination is undoubtedly by means of the dark ground illumination. The principle consists in shutting off the central rays and arranging by means of a plano-convex piece of glass, the convex curvature of which represents an exact rotation-paraboloid, that the marginal rays should be reflected on to the surface of the cover-glass.

J. B. Reade in 1837 was the first to put this principle into use, and he described it under the name "black ground illumination." Since then various modifications and improvements have been made, and there are now two instruments on the market, Reichert's Spiegel Condenser and Zeiss' Paraboloidal Condenser, both of which are comparatively inexpensive and as easy as possible to use. Reichert makes three kinds, differing only in workmanship and cost. The best and most serviceable instrument is one costing about £4. A No. 5 objective and a No. 18 eyepiece should be used.

For the source of illumination direct sunlight will serve, but since it is not always obtainable some form of artificial light should be employed invariably. The ordinary gas or electric light being not strong enough, some form of arc lamp should be used, but two Nernst burners are equally serviceable and less costly.

Zeiss' paraboloidal condenser costs £2, and is best used with an apochromatic objective 3 or 4 mm. (with diaphragm), and a No. 18 eyepiece. An inverted incandescent gas lamp, costing £1, gives enough light, with the aid of a spherical glass flask containing water placed between the lamp and the microscope. The cost of the glass flask on stand is 7*s*. A scraping of the lesion should be made, avoiding as far as possible getting it mixed with blood.

Put a drop of the serum on a slide, which should be scrupulously clean and roughly double the usual thickness, and cover it with a thin cover-slip.

Press the cover-slip on to the slide as firmly as possible, because the thinner the layer of fluid the easier it is to examine.

If the specimen has to be saved, evaporation is prevented by going round the cover-slip with vaselin or paraffin.

Next place some cedar-wood oil between the condenser and the slide, avoiding as far as possible air-bubbles, since they considerably weaken the dark ground.

After use the immersion oil should always be wiped off the condenser.

The *Spirochæta pallida* is easily seen by its movements, which strike the eye at once. It has a cork-screw form; the turns are regular and vary very much in number—eight to twenty. The ends are pointed.

When at rest the spirochæta gives one the impression of being somewhat flattened out, not round; then as movement begins one notices an alternating spiral shape with a row of dots. The organism does not seem to rotate as a whole, but more or less turn after turn.

Some curious movements of a whipping character which often lead to a right-angled kink of the organism are not infrequently observed.

The other spirochætes present, such as the *S. refringens*, *S. buccalis*, etc., appear very much thicker; the turns are flatter and more irregular. The movements are the same as those of the *pallida*, but considerably stronger, quicker, and more powerful.

Further, when a *S. pallida* moves the whole organism is in motion, but with the other spirochætes the most powerful movements can occur in one part while the remainder of the organism is at rest.

The *S. pallida* appears invariably white, while the other species often have a yellowish or reddish tinge.

One hears much about the *S. refringens*, but having examined several chancres and supposed chancres, I have found that if the *S. pallida* was present it was the predominating spirochæta, and usually the only one, and in the non-syphilitic lesions the *S. refringens* by no means invariably occurred, being more often absent than present. The differential diagnosis between spirochætes when examining mouth lesions never led to any difficulties. The advantage of finding the specific protozoon is enormous, since treatment can be commenced at once. The sooner the patient begins to take mercury the less severe are the secondary manifestations, but a non-occurrence of an exanthem is an extremely rare phenomenon.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A Meeting of the Dermatological Section of the Royal Society of Medicine was held on Thursday, July 15th, 1909, Dr. H. Radcliffe-Crocker, President, in the Chair.

The President said that, this being the last occasion on which he would have the privilege of presiding over the Section, he might be pardoned for making a few valedictory remarks. The Royal Society of Medicine and the Dermatological Section had now been in existence for two years, and it was possible from their past experience to form some idea as to what their future would be. The Royal Society of Medicine had more than justified its existence, and it was growing continually in influence and power. Of the Dermatological Section he could speak in similar terms. It was a matter of congratulation that the two societies, from which the Section originally was formed, had come together. They had worked so harmoniously that it was a wonder they had not been united before. They must, therefore, speak of the Section as a pronounced success, and its difficulties and shortcomings, such as they were, were really due to that very success. The Council and Executive had endeavoured to keep up the traditions of the old societies by making the meetings as clinical as possible, by giving opportunity for the exhibition of interesting cases with little formality, and by endeavouring to preserve that friendly intercourse and interchange of ideas that in a work like their own was one of highest value. He was well aware that owing to the number of cases which were brought forward it had not always been possible to get through the programme and at the same time to discuss the cases as adequately as they deserved. It had been the aim of the Section to allow each case to be fully discussed, but owing to the conditions to which he had already alluded this had not always been possible. Further experience, however, would assist them in dealing with this matter. It would be a valuable departure if they were able to group the different cases together, thus saving no small amount of time, but in order to do this it would be necessary for members of the Section to send notice of cases to the secretary much earlier than they had been in the habit of doing. The plan of giving up the May meeting to the discussion of matters of general interest had been so successful this year that he trusted it would be continued. But such matters might very well be left to his successor. In conclusion he desired to thank the Hon. Secretaries, Dr. Whitfield and Dr. Graham Little, for their very cordial co-operation and assistance. and to extend his thanks to the members generally for the loyal support which they had given him during his term of office.

The following cases were shown :

Dr. RADCLIFFE-CROCKER showed a series of *cases treated with liquid air,* and demonstrated the method of application in a case of port-wine nævus. The cases were as follows : (1) Two cases of port-wine nævus; (2) a case of Lupus erythematosus, in which the left cheek had been treated by liquid air, while the right had been treated by zinc ionisation; on both sides the diseased area was very nearly cured, and there was very little to choose between the two methods of treatment; (3) a projecting nævus on the scalp of an infant almost cured with three applications ; (4) a case of Lupus vulgaris in which a small portion on the upper lip had greatly improved with four applications; (5) a young lady with a flat, hairy mole on the forearm, about three and a half inches by two and a half, in great part cured after one application.

The amount of the reaction was dependent in every case on the duration of the application, the extent of the surface treated, and the pressure with which the application was made. The duration and the pressure varied according to the nature and characters of the different lesions. The intense cold was itself a local anæsthetic, so that the pain at the time of application was but slight. A certain amount of burning followed the removal of the liquid air from the skin, and persisted for an hour or so, but the sensation of discomfort was neither long-continued nor severe. The temperature of liquid air is – 252° C.

Dr. Pringle, referring to the case of Lupus erythematosus, said he thought the result obtained with ionisation was the better of the two, and that there seemed to be a likelihood of a deeper scar from the treatment by liquid air than from the ionisation.

The President replied that the amount of scarring left would differ according to the degree of the application, and each operator must discover for himself the proper degree.

Dr. J. M. H. MacLeod showed (1) three cases of *raised vascular nævi cured by carbon dioxide snow.*

Case 1.—B. D—, aged 5 weeks; raised vascular nævus, slightly larger than a sixpence, bright red in colour, situated in the centre of the right breast and including the nipple.

A single exposure to carbon dioxide snow of 30 seconds was given. A marked reaction occurred with the formation of a bulla the same night. When the reaction subsided a fortnight later the nævoid tissue was gone, and there was scarcely any scar, the nipple itself not being destroyed.

Case 2.—D. M—, aged 10 weeks; raised vascular nævus, ¾ in. long and ¼ in. broad, bright-red in colour, and situated in the sternal region. Three exposures to carbon dioxide snow were given at weekly intervals of 20, 10, and 10 seconds respectively. No marked reaction occurred, but the nævoid tissue disappeared, leaving no appreciable scar.

Case 3.—F. A—, aged 8 months; raised vascular nævus, the size of a sixpence, bright-red in colour and situated on the back. It was exposed to carbon dioxide snow for 40 seconds. A marked reaction occurred with the formation of a blister, which on subsiding left an excellent scar, with no trace of nævoid tissue.

The infant had also a fibrous, pyriform, vascular nævus, about the size of a large pea, situated behind the left auricle. This was treated similarly, but on account of the fibrous tissue present was more resistant, and the result was not so satisfactory. The case was still under treatment.

Cases 1 and 2 were treated three months ago, and no sign of a recurrence was observed. The method of applying the carbon dioxide snow was that suggested by Pusey, with slight modifications.

The exhibitor had employed this method for about four months, and in his short experience of it he had found that it excelled any other method he had tried for the treatment of the ordinary raised vascular nævi. It had certain advantages over the treatment of such lesions by radium, in that the results were as good if not better so far as the scar was concerned, and the treatment was more simple and rapid and far less costly.

The exhibitor had under this treatment cases of rodent ulcer, Lupus vulgaris, Lupus erythematosus, hairy moles and capillary nævi, and would report on these at a subsequent meeting of the Section.

Dr. **WHITFIELD** said he did not think the treatment was of much use for deep nævi.

The **PRESIDENT** said it was important to try and trace any cause of intestinal irritation. Many years ago he had seen a boy of about the same age who had persistent erythema—gyrations and rings. It was not until months afterwards that it became vesicular.

(2) A case of *Dermatitis herpetiformis* in a boy, aged 5 years. The eruption was of the circinate type, consisting of papulo-vesicles and vesicles on a red base, about the size of a split-pea, arranged in circinate groups. Five months ago the patient was suffering from constipation and was given a box containing eighteen "grey tabloids" (probably hyd. c̄ cret. gr. $\frac{1}{2}$) to relieve it. He ate them all at a sitting. Next day the eruption appeared as a circinate group of papulo-vesicles on the lumbar region, which was followed by a number of other groups of lesions in the neighbourhood. This attack subsided in about three weeks. A fortnight later a fresh attack began on the thighs and arms and had continued till the time of exhibition.

The chief point of interest in the case was the fact that the eruption had appeared immediately after the boy took the mercury. This suggested that the drug had caused the absorption of some toxin which was connected with the outbreak of the disease. The snow was applied in variously sized specula or cylinders, being passed down by a plunger which fitted the speculum exactly. The degree of action of the snow was dependent on the time of application and the pressure exerted, and varied from a mild erythema to a necrosis.

Dr. Adamson showed (1) a case of *neurotic excoriations.* Dorothy P—, aged 16 years, a domestic servant, had given a history of an itchy eruption on the face, trunk, and limbs, on and off for six months. When seen on July 2nd the lesions consisted of split-pea-sized excoriations, in groups of two to five, on the forehead, chin, chest, back, and limbs. Many of the excoriations were rounded, but some were oval in shape, and their appearance strongly suggested that they had been produced by tearing with the nail; in fact, many were rather deep, and looked as though the skin had been dug out with the nail. The patient did not deny that she scratched the spots, but said that there first of all appeared a very itchy papule which she was compelled to tear at with her nail. While waiting in the out-patients' room there had appeared upon the cheek a pin-head-sized papule surrounded by a red, almost wheal-like areola, suggestive of the lesion of Lichen urticatus, or of a gnat-bite, and this the patient said was the manner in which they had always come.

Dr. Adamson had shown two cases of "neurotic excoriations" at the meeting of the Section in December last, and in those cases the lesions were larger and had obviously been produced by rubbing with the finger-tip, although the patient had in each instance denied it. It had been a point of discussion as to whether or no these lesions were preceded by a localised itching which induced the patient to rub or scratch. Erasmus Wilson, who first described this affection, said that "the patient generally feels an itching or stinging sensation in some part of the skin, and is induced to rub the spot; the effect of a very slight rub is to detach the cuticle, which seems to slide off the spot, and thus bring into view an excoriated patch." Others had opposed the view that there was any previous local itching or changes in the skin, and believed the lesions to be of entirely artificial production. The truth seemed to be that there were two forms of this eruption, one occurring in hysterical subjects and purely artificial, and another in which there first of all appeared an itchy papule or an urticarial patch, which the patient either rubbed or tore at with the nail in order to relieve the intense itching. The cases described by Wilson as "neurotic excoriations" seemed to include examples of both these types. The case now exhibited appeared to belong to the latter class. Dr. Colcott Fox had called the exhibitor's attention to a case of this sort which he had described in 1888 in the Westminster Hospital Reports, and had also kindly furnished him with references to several more examples of these dug-out excoriations, evidently made with the finger-nail, and in the opinion of Dr. Fox, not to be confounded with the larger patterned "neurotic excoriations" of hysterical subjects.

The **President** said that the cases in which the patient dug out a piece of skin for relief he had called "Acne keratosa." The lesions were not found on the limbs, but only on the face. He had seen cases also of Acne vulgaris in which the patient could not help scratching himself. When such cases seemed to have been successfully treated they did not long remain well.

Dr. **Pringle** said he was familiar with such cases in neurotic persons, and he put them in his notes as "itching acne." They were difficult cases to treat.

For references to literature of "neurotic excoriations," *Trans. Roy. Soc. Med.*, January, 1909, vol. ii, No. 3, Dermatological Section, p. 67.

Dr. **Colcott Fox**'s references to cases of "dug-out excoriations" associated with localised pruritus:

1. **Radcliffe-Crocker.**—Dermatological Society of London, April 14th, 1886, *Brit. Journ. Derm.*, June, 1907, p. 221.
2. **Colcott Fox.**—*Westminster Hospital Reports*, 1888, vol. iv, p. 149.
3. **Sangster.**—Dermatological Society of London, November 9th, 1887, *Brit. Journ. Derm.*, July, 1907, p. 257.
4. **Colcott Fox.**—Dermatological Society of London, April, 1907, *ibid.*, May, 1907, p. 169.
5. **Whitfield.**—Dermatological Section, Royal Society of Medicine, November 28th, 1907, *ibid.*, December, 1907, p. 432.

(2) A case of *Acne scrophulosorum.* Patient, Ada W—, was a married woman, aged 39 years. The eruption had appeared for the first time six years ago, during a pregnancy, and after delivery it had disappeared. With several pregnancies since she had had a similar eruption. Eighteen months ago she had attended St. Bartholomew's Hospital with an eruption similar to the present one, and from that time until one month ago she had been free. The present eruption was of six weeks' duration. It was confined to the arms and to the legs and buttocks, and there was no rash on the face or trunk. It consisted of a very numerous, discrete, though closely set, papules and papulo-pustules, varying in size from that of a large pin's head up to split-pea sized. Some of the lesions are indolent deep-seated nodules, others acuminate papules with a pustule or a crust at the apex. There are also numerous, shallow, punched-out, pigmented scars, the seat of former lesions. The eruption is very profuse over the buttocks so that hardly a clear space is left here, and only somewhat

less so on the arms and legs. There is no evidence of present or past tuberculosis.

Dr. **Pringle** asked, in regard to prognosis, whether it was the experience of members that such cases developed tuberculosis, for that was not his experience.

Dr. **Colcott Fox** said that no case of the kind under his care had developed tuberculosis.

(*To be continued.*)

OBITUARY.

HENRY RADCLIFFE-CROCKER, M.D., F.R.C.P.

As we go to press we hear with the greatest regret of the sudden death in Switzerland of Dr. Radcliffe-Crocker, Physician to the Skin Department, University College Hospital, and President of the Dermatological Section of the Royal Society of Medicine. His death has removed one of the chief authorities on diseases of the skin in England, and will be mourned by a world-wide circle of friends. We propose to publish a fuller obituary in the October number of this journal.

CURRENT LITERATURE.

A CASE OF LUPUS ERYTHEMATODES IN COMBINATION WITH LUPUS VULGARIS. J. Kyrle. (*Arch. f. Derm. u. Syph.*, vol. xciv, 1909. p. 309.)

The patient was a man, aged 27 years, who first came under treatment at Prof. Finger's clinic for some months in 1905. He then had a patch of Lupus erythematodes, the size of a crown, situated over the left malar bone extending almost up to the eye, and several other patches on the face of similar size. As just stated, the diagnosis of Lupus erythematodes was made and the patient was treated with quinine-iodine tincture, so successfully that in little more than a month the lesions had disappeared. But on July 1st, 1907, he made his appearance at the clinic once more with further lesions in somewhat similar positions, the patch on the left side near the eye again being the largest. There was some enlargement of the submaxillary and cervical glands, but nothing abnormal could otherwise be detected on physical examination of the internal organs. An injection of 1 mg. Koch's old tuberculin was given (all Lupus erythematodes cases were given this injection of tuberculin), with negative result. The previous treatment was repeated but with less success, and in the succeeding months very little improvement took place. At the patient's express wish, on January 8th, 1908, some of the lesions were excised. The patch under the right eye was excised and healed by first intention, and patches on the chin and the lower lip were excised at the same time. It was decided also to remove the larger patch, and this was done, a pedunculated skin graft being cut from the forehead to fill the wound. After a fortnight the patient was discharged with the wound healed, but a month after the operation he was re-admitted with nodules showing in the scar of the graft. Tuberculin injection of the same strength as before now gave a positive result. The temperature after the injection was 38·5° C. The nodules were touched with silver nitrate and the place X-rayed. Treatment still continues.

Histological examination of the patches first excised, under the right eye, on the chin and the under lip all showed the characteristic structure of Lupus erythematodes, and the patient was shown at the Dermatological Society as a case of Lupus erythematodes. But examination of the patch under the left eye which was removed and grafted showed, to everyone's astonishment, the typical picture of Lupus vulgaris. Giant-cells and round-cell infiltration were present, as in other cases of Lupus vulgaris, but no tubercle bacilli were found.

Transitions between Lupus erythematodes and Lupus vulgaris were carefully looked for in the sections, but nothing of this nature could be discovered. In one case there was always the sharp picture of Lupus erythematodes, in the other of Lupus vulgaris.

In view of the theories which have so often been put forward as to the tuberculous nature of Lupus erythematodes, this case naturally tends to lead to discussion whether or not the Lupus erythematodes lesions were due to tubercular toxins or tubercular metabolic substances. But the answer to this may perhaps paradoxically lie in the question, "Can any one pathological cause give rise to two entirely dissimilar pathological processes?" That Lupus erythematodes is not a tuberculous process has been already shown by histological examinations, by pathological investigations, and by the recently published opsonic observations of Bunch, and the mere fact of Lupus erythematodes and Lupus vulgaris coexisting in the same patient does not prove that they are due to the same tubercular process. The case here recorded is, however, of considerable interest.

J. L. B.

CONTRIBUTION TO THE PATHOLOGICAL ANATOMY OF THE CHANGES PRODUCED IN HEALTHY SKIN BY THE ACTION OF RESORCIN. By W. Kopytowsky. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 111 [one plate].)

Resorcin was introduced into therapeutics by Andeer and has since been used by numerous dermatologists. Unna puts resorcin among the reducing applications—between sulphur and ichthyol on the one side and pyrogallol and chrysarobin on the other. It has two isomers—hydroquinone and pyrocatechin. The author applied it to the human scrotal tegument for from twenty-four to ninety-six hours, and minute histological examination showed that it produced inflammation of the skin, thickening of the epidermis and even the formation of horny material, but (contrary to the conclusions of Kellog) never mortification of this layer. In the papillary and upper cutis layers dilatation of vessels ensues, with swelling and hyperplasia of the endothelium. Resorcin further attacks the pigment cells of the cutis, but mitosis formation and leucotactic action are not increased.

J. L. B.

REVIEW.

A SYSTEM OF SYPHILIS.*

THE second volume of this *System of Syphilis*, though not, perhaps, of such general interest as vol. i. is in its own way as admirable. It deals with the surgery of syphilis, the treatment of syphilis, and syphilis in obstetrics. The chapters on the surgery of syphilis are from the pen of Mr. D'Arcy Power, and in them this branch of the subject is treated in a thorough fashion. In connection with syphilis of the mouth a detailed description of leucoplakia is given, in which a number of debatable questions are raised. For example, the writer considers that this affection of the lingual mucosa is "usually syphilitic in origin, though it is sometimes due to other causes associated with chronic irritation." It is a moot point, however, whether the pathological changes in leucoplakia are ever the direct result of the syphilitic poison *per se*, and do not result, when they occur in a syphilitic person, from the action of some local irritant, such as smoking, mercury, hot fluids, etc., in a soil specially predisposed by the syphilis. In connection with the histo-pathology of the condition reference is made to the granular layer and the much thickened stratum corneum. This reference requires modification, as a true granular layer, the cells of which contain kerato-hyalin, is, as a rule, absent in the mucosa of the tongue, and if the presence of keratin be taken as the criterion of a horn-cell then a true stratum corneum composed of keratinised cells is also absent. With regard to treatment the writer recommends the employment of the time-honoured caustics, such as nitrate of silver, chromic acid, saturated lactic acid, etc. The employment of such applications, though occasionally of benefit, should be done with the greatest caution. Leucoplakia in itself is no great inconvenience, but it is an indication of a state of activity of the epithelium, which is a dangerous possession, and the employment of caustics have been known to increase rather than diminish the tendency to epithelial proliferation and to incite malignant changes.

The treatment of syphilis is described by both Mr. D'Arcy Power and by Colonel F. J. Lambkin, R.A.M.C., and consequently there is considerable repetition. Referring to the fact that excision of the chancre, even in an early stage, is, as a rule, useless in preventing the generalisation of the disease, Mr. Power concludes that "syphilis should be regarded as a constitutional disease with the chancre as a local sign, rather than as a local condition leading to constitutional infection."

In his description of the treatment Colonel Lambkin lays special stress on the value of intra-muscular injection as a routine treatment for syphilis, claiming for the method the following advantages over the other methods: (1) convenience, in that with injections of insoluble salts it is only necessary for the patient to attend a medical man once a week; (2) regularity of treatment; (3) accuracy of dosage; (4) certain absorption of the mercury; (5) non-interference with the gastro-intestinal system; (6) diminished chance of toxic symptoms; and (7) increase in both the therapeutic and physiological action of the drug. He is a strong advocate of the employment of the insoluble preparations, namely, metallic mercury and calomel, and makes out a particularly strong case in their favour, for compared with the soluble salts they are absorbed and eliminated much more slowly, the injections need only be done at weekly intervals instead of daily or on alternate days, and the therapeutic effects are more lasting. The disadvantage of injections of insoluble preparations is that if a stomatitis be set up it is difficult or impossible to stop till the mercury is eliminated, unless by excising the tissue in which the mercury has been deposited—a proceeding which is not always practicable. This is a real and serious disadvantage, and several fatal cases of gangrenous stomatitis have been recorded by Gaucher and others. A detailed and practical description of the method of injection of the insoluble salts, as now practised in the British Army, is given, and this will be of great value to anyone unacquainted with the technique. Calomel, which is generally regarded as the most powerful of all the salts of mercury, has the disadvantage of causing considerable pain when injected. To obviate this, Lambkin recommends the following formula, which he claims to be practically painless: Calomel 5 grm., creo-camph. 20 c.c. (equal parts of creosote and camphoric acid), and palmitin 100 c.c.; 10 ♏ of this cream is injected once a week and contains half a grain of calomel. The formula for the mercury cream he employs is: Pure mercury 10 grm., creo-camph. 20 c.c., palmitin 100 c.c.; 10 ♏ of this is injected once a week and contains one grain of metallic mercury.

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* *A System of Syphilis.* Edited by D'ARCY POWER and J. KEOGH MURPHY. Vol. II. London, 1908. Henry Frowde and Hodder and Stoughton. Price £2 2*s*. net.

Reference is made to the use of the organic compounds of arsenic, the arylarsonates, such as atoxyl and soamin, in the treatment of syphilis, and these the writer regards as a second specific for the disease. In this view, however, the general consensus of opinion is not with him, for the majority of those who have employed these remedies in syphilis have been disappointed with them, and, except as an occasional adjunct to mercury, not a few have discarded their employment.

An interesting account is given of "An Outbreak of Syphilis in a Virgin Soil," namely, in the Uganda Protectorate, being Lambkin's experiences while on a special commission of inquiry in Uganda to consult with the medical staff there as to the means of checking the ravages of syphilis in the Protectorate. One observation of the writer's is specially noteworthy, as it does not conform with the general experience, namely that the natives of Uganda seemed to tolerate mercury well when given in the form of injections of insoluble metallic mercury.

The final chapter of the volume is devoted to the consideration of syphilis in obstetrics by Dr. William J. Gow. A number of illustrations in the form of radiograms, photographs, and coloured plates of syphilitic lesions dealt with in the text are appended and greatly enhance the value of the volume.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

ERYTHEMAS, INFLAMMATIONS, ETC.

Acanthosis Nigricans, A Case of. (*Monats. f. prakt. Derm.*, vol. xlix, No. 1, p. 2.)

Acrodermatitis Chronica Atrophicans with Circumscribed Scleroderma. ARNDT. (*Berl. klin. Wochenschr.*, No. 28, 1909.)

Bullous Erythema (Pemphigoid Eruption) Supervening in the Course of an Infection in an Infant suffering from Pott's Disease. (Contribution to the Study of "Dermatites Polymorphes Douloureures," the Dühring-Brocq Disease.) PIERRE TEISSIER and RÉNE BÉNARD. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, May 7th, 1909, p. 851.)

Elephantiasis, Case of. J. C. MURPHY. (*Journ. of Trop. Med.*, July 1st, 1909, p. 196.)

Erythema Exudativum, Apparently Peculiar to Heavy Drinkers (les grandes alcooliques), On a Form of. L. M. BONNET. (*Lyon Médicale*, July 4th, 1909, vol. cxii, p. 3.)

Hydroa Æstivalis (Bazin), Summer Eruption (Hutchinson), Further Investigations on Light Action in. S. EHRMANN. (*Arch. f. Derm. u. Syph.*, vol. xcvii, July, 1909, p. 75.)

Hydroa Gestationis. E. WARD. (*Lancet*, June 26th, 1909, p. 1827.)

"Ichthyosis Follicularis" associated with Baldness, Three Cases of. J. M. H. MACLEOD. (*Brit. Journ. Derm.*, June, 1909, p. 165.)

Impetigo Herpetiformis, A Case of. G. A. GAVAZZENI. (*Monats. f. prakt. Derm.*, vol. xlix, No. 1, p. 8.)

Lichen Planus of Wilson, A Case of, on the Thorax and Arm with Zosteriform Distribution. MINOT. (*Ann. de Derm. et de Syph.*, May, 1909, p. 308.)

Lupus Erythematodes, The Clinical Characters and Anatomy of. ERNST DELBANCO. (*Monats. f. prakt. Derm.*, vol. xlviii, No. 12, p. 535.)

Lupus Erythematosus, A Case of Acute. J. E. R. MCDONAGH. (*Lancet*, July 17th, 1909, p. 148.)

Papular Eruption of the Axillæ and Pubes, A Chronic, Itching; Its Relation to Neuro-dermatitis. J. A. FORDYCE. (*Journ. of Cut. Dis.*, May, 1909, p. 187.)

Parapsoriasis Brocq, Histological Investigation of. (A Contribution to the Study of the Papulo-squamous Tuberculides.) VERROTTI. (*Arch. f. Derm. u. Syph.*, vol. xcvi, No. 2, p. 193.)

Pemphigus, A Case of. H. G. KLOTZ. (*Journ. of Cut. Dis.*, June, 1909, p. 242.)

Practical Experience with Scabies. KUANER. (*Münch. med. Wochenschr.*, No. 20, 1909.)

Purpura Hæmorrhagica: Is it Caused by the Colon Bacillus? MAHER. (*Med. Record*, March, 1909, p. 482.)

Sclerodermia and Raynaud's Disease (Polyglandular Syndrome). DUPRÉ and PIERRE KAHN. (*Bull. de la Soc. Méd. des Hôp.*, June 11th, 1909, p. 1230.)

Ulcer of the Labium Majus Recurring in Pregnancy, An. Dr. MAYER. (*Derm. Zeitschr.*, xvi, May.)

Variola Verrucosa, A Contribution to Our Knowledge of. NOBL. (*Wien. med. Wochenschr.*, March, 1909, p. 506.)

GRANULOMATA.

Actinomycosis, Systemic. H. R. VARNEY. (*Journ. of Cut. Dis.*, June, 1909. p. 235.)

Frambœsia Tropica, With Researches on its Parasitology. A Case of. Dr. LOHE. (*Derm. Zeitschr.*, xvi. 4.)

"Granuloma Annulare," Contributions to the Study of the So-called. Dr. G. B. DALLA FAVERA. (*Derm. Zeitschr.*, xvi, 2.)

Granuloma of the Pudenda, On the Ætiology of Ulcerative. J. B. CLELAND and J. R. HICKINBOTHAM. (*Journ. of Trop. Med. and Hygiene*, May 18th, 1909.)

Leprosy. L. DUNCAN BULKLEY. (*Med. Record*, July 10th, 1909, p. 45.)

Leprosy of the Bones. D. HIRSCHBERG and BIEHLER. (*Derm. Zeitschr.*, xvi, July.)

Mycosis Fungoides with Primitive Tumours at Onset. PAUTRIER. (*Ann. de Derm. et de Syph.*, May. 1909. p. 314.)

TUBERCULOSIS.

Acute Lupus Erythematosus (Erythema Perstans Faciei). Relations of, to Tuberculosis. POLLAND. (*Arch. f. Derm. u. Syph.*, vol. xcvi, No. 2. p. 215.)

Erythema Induratum of Bazin, Positive Cutaneous Reaction and Disappearance of the Primitive Lesions after Intradermic Injection of Tuberculine. THIBIERGE and GASTINEL. (*Ann. de Derm. et de Syph.*, May, 1909. p. 310.)

Erythema Nodosum and Intra-Dermic Reaction to Tuberculine. H. BARBIRE and C. LIAN. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, May 7th, 1909, p. 837.)

Erythema Nodosum and Tuberculosis. A. B. MARFAN. (*La Presse Médicale.* June 26th. 1909, No. 51. p. 457.)

Lichen Scrofulosorum, On the Pathogenesis of. Dr. NOBL. (*Derm. Zeitschr.*, xvi. 4.)

Local Treatment of Tuberculous Lesions with Quinine, The. ORHAN BEY. (*Deutsch. med. Wochenschr.*. No. 19. 1909.)

Lupus Treatment, The Value and Significance of Operative Plastic. A. JUNGMANN. (*Arch. f. Derm. u. Syph.*, vol. xcvii, No. 1. p. 3.)

Lupus Vulgaris, The Treatment of. BOECK. (*Monats. f. prakt. Derm.*, vol. xlviii, No. 10, p. 439.)

Moro's Ointment Reaction, Concerning. BULLINGER. (*Münch. med. Wochenschr.*. No. 26, 1909.)

Serological Examinations in Tuberculosis of the Lung and Skin. EITNER and STOERK. (*Wien. klin. Wochenschr.*, No. 23, 1909.)

Tuberculides, Pathogeny of the Cutaneous Non-Follicular, Elucidated by Experimentation. GOUGEROT and LAROCHE. (*Arch. de Méd. Expér.*, May, 1909. p. 324.)

Tuberculin Reaction, Inunction, in Cutaneous Tuberculosis, The Diagnostic Value of the (Moro's Inunction Test) (illustrated). W. B. TRIMBLE. (*New York Med. Journ.*, May 22nd, 1909, p. 1031.)

Tuberculosis Verrucosa Cutis of Riehl and Paltauf of the Leg, with Histological Examination. MENAHEM-HODARA. (*Journ. des Mal. Cut. et Syph.*, Fasc. iii, 1909. p. 183.)

NEW GROWTHS.

Colloid Milium, A Case of. POUGET. (*Ann. de Derm. et de Syph.*, June, 1909, p. 374.)

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A BRIEF SURVEY ON THE PRESENT STATE OF OUR KNOWLEDGE OF THE BACTERIOLOGY AND PATHOLOGICAL ANATOMY OF LEPROSY.*

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Since the first Congress in 1897 almost all the advances which have been made with regard to leprosy have been the result of a wider knowledge of the pathology and bacteriology of the disease. Although this advance has not been rapid, nor associated with any brilliant or epoch-making discovery, it has been none the less sure. In the short time at my disposal it will be my endeavour to point out wherein this advance has taken place, to state briefly the present position of our knowledge of the bacteriology and pathology of the disease, to show wherein that knowledge is defective, and to suggest certain questions for discussion.

The Cause of the Disease: The Lepra-Bacillus.

The researches of the last twelve years, since the first Lepra Congress, have only more firmly established the lepra-bacillus of Hansen as the specific cause of leprosy; although up to the present time all the postulates of Koch have not been fulfilled by it, yet the fact that it occurs universally in leprosy in all its forms, that all the symptoms of leprosy can be explained as the direct or indirect result of a pathological process produced by it, that it is absent in all other morbid entities, and that it possesses characteristics which differentiate it from all other micro-organisms, render its position as the leprosy-exciter as unassailable as that of the plasmodium of malaria, or the spirillum of relapsing fever.

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* Being an address to open the discussion on the Pathological Anatomy of Leprosy at the Second International Scientific Congress on Leprosy, held at Bergen, August 16th to 19th, 1909.

Morphology.—The knowledge of the morphology of the bacillus has been advanced of late by the introduction of special staining methods to demonstrate the young homogeneous bacilli, the old, granular and dead bacilli, the resistant fat in the bacilli, and the fat in the glœa which holds them together.

By these methods it has been shown that a large proportion of the bacilli in the tissue are dead, that even in young newly formed lepromata dead bacilli occur, while in older lesions the majority of the bacilli are dead.

(*a*) By Ziehl's method, using 20 per cent. nitric acid and counter-staining with polychrome blue, young bacilli are stained red, older bacilli violet, and granular bacilli blue.

(*b*) Emile-Weil (*Lepra*, 1906, *vide* p. 33) suggested the employment of the Baumgarten method, namely staining with aniline violet in the cold, and using nitric alcohol (1 in 10) to differentiate. By this means the bacillus does not lose its stain.

(*c*) Unna (*Monats. f. Prakt. Derm.*, 1908, xlvi, p. 195), for the double staining of normal and dead bacilli in the tissues suggested the employment of Victoria blue, 1 per cent. nitric acid, and saffranin; this stains the normal bacilli blue and the dead bacilli yellow.

The differentiation by means of staining methods of the lepra-bacillus from the tubercle bacillus is uncertain, though various methods have been suggested, based on the fact that the lepra-bacilli, when stained by Ziehl's method, more readily lose their stain when treated with nitric acid than the tubercle bacilli, and we are compelled to fall back on other characteristics to distinguish them.

Classification.—The classification of the lepra-bacillus is a matter for discussion at the present time. Until recently the bacillus was believed to belong to the class of the Schizomycetes, but the finding of a cladothrix arrangement by Barranikow and others (Charkow, *Derm. Soc. Trans.*, 1900), and of branching forms like Actinomyces, have rendered it probable that it belongs to the class of the Streptotricheæ. In the bacilli small spheres have been noticed, and have been described as "spores," but the evidence that they are true spores is not conclusive.

Cultivation.—In spite of the numerous attempts which have been made during the last decade to cultivate the bacillus, no medium has been discovered on which it will invariably grow. From time to time observers have announced that they have succeeded in cultivating it, but further experiments by themselves or others have usually failed to establish their claim, and showed that either the technique was defective, that the cultivations had become contaminated, or that some other acid-fast micro-organism, like the tubercle bacillus, had been grown.

Of the many attempts to cultivate the lepra-bacillus claimed to have been successful, but which have not been definitely established, three may be mentioned.

(*a*) Carrasquilla (communication to the Nat. Acad. of Med., Bagota, Columbia, 1899) reported that he had cultivated the lepra-bacillus on human blood-serum and on beef bouillon.

(*b*) Van Houtum (*Journ. of Path. and Bact.*, 1902, p. 260) recorded positive results on broth prepared with fish and beef, and rendered alkaline with leprous material. He also claimed that the bacilli, when mixed with diluted human serum, showed the Pfeiffer-Bordet reaction with destruction of bacilli, which was more marked with leprous serum than with ordinary serum.

(*c*) Emile-Weil (*Ann. de l'Institut Pasteur*, 1905, p. 793), working in the laboratory of the St. Louis Hospital, Paris, under M. Sabouraud, claimed to have cultivated lepra-bacilli from recent leprous nodules on several peptone-glucose and peptone-agar media, containing pleuritic serum. His apparently most successful experiment was by inoculating leprous material in a hen's egg as follows: The juice from a recent nodule was taken up by a pipette. This was introduced into the yolk after piercing the broad end of the egg. The small hole was afterwards closed up by a collodion scab, and the egg incubated at 37°. The yolk was then turned out on a petri-dish, and in it a small yellowish nodule, about the size of a hemp-seed, was observed, which proved to be a colony of lepra-bacilli. This result was obtained twice out of twenty-six eggs inoculated.

Up to the present not only has no satisfactory medium been found on which the lepra-bacillus will grow, but it has not been proved that the bacillus is present and can lead a saprophytic existence on decayed organic matter, such as decayed fish, meat, rice, or in the soil. If the bacillus could lead such a saprophytic existence there should be no great difficulty in finding a suitable medium for its growth. This fact alone is sufficient to negative the theory that the disease may result from the eating of decayed fish, decayed pork, and the like, and until either the lepra-bacillus has been found to exist in decayed fish and to be capable of being recognised there, the fish theory of the ætiology of leprosy cannot be regarded as other than a hypothesis which is unsupported by scientific fact.

Inoculation.—Up to the present time no lower animal has been found which is susceptible to leprosy.

Numerous inoculation experiments have been made on different animals, chiefly monkeys, rabbits, and guinea-pigs, the leprous material being inoculated under the skin, in the peritoneal cavity, in the anterior chamber of the eye, etc., but invariably with negative results.

Nicolle, of Tunis (*Lepra*, 1905, v, p. 160), excised a nodule from a leper. This was broken down, diluted with sterile water, and inoculated on the temples of a monkey after scarification, also on the conjunctiva, nasal mucosa, and on the left ear under the skin. A *Macacus* ape was similarly inoculated. Four days afterwards all traces of the inoculations had gone, and an examination of the nasal mucus showed no bacilli.

A month later a small subcutaneous nodule appeared in front of the ear, and a few days afterwards one or two small, indurated, red nodules in the auricle. These remained unaltered for some time. A histological examination showed an accumulation of lymphocytes, but no giant cells or caseation. The bacilli in the tissue were few and were almost all in the cells. There were no definite "lepra-cells."

Presence of lepra-bacillus in insects.—So far the microbe has not been found in mosquitoes, nor in other insects suspected of disseminating the disease; though in this connection Goodhue (*Journ. of Trop. Med.*, 1906) claims to have found the bacillus in the gnat and the bed-bug (*Cimex lectularis*). This observation, so far as I am aware, has not been corroborated by others.

Serology.—An immunising serum has not yet been obtained for leprosy, and all attempts to extract from lepromata a substance which would produce in leprous patients a reaction analogous to that produced by tuberculin in tuberculous patients have been unsuccessful. It is a well-known fact that leprous patients may react to the old tuberculin, but this reaction is of comparatively little significance, as individuals may react to the old tuberculin without being tuberculous. Leprous patients also react to the products of other micro-organisms.

(1) The Carrasquilla serum method has not fulfilled its promise, and the results

from it have been so disappointing that it has been practically abandoned. The method was as follows:

Blood was obtained from leper cases by venesection performed on the patients at the febrile period when the blood was at its maximum toxicity. From this a leprous serum was separated and injected a few hours after collection into a horse, three injections being given at intervals of ten days. From this horse after ten days a serum was obtained, which was injected into the patient.

Tidswell (*Report on Leprosy in New South Wales*, 1898; *Lepra*, 1900, i, p. 142) gave a careful account of his experience with the serum, and reported unfavourably regarding it. He found that with injections of 5 c.c. in the human subject, injected every three to five days for a period of nine months, no marked reaction was produced, and no rigor, fever, joint pains, or erythema occurred. At first the patients said they felt better, but, as is usually the case with a new remedy when they got accustomed to it, they became as listless as before. No change in the nodules and macules were detected; anæsthesia persisted, alopecia and defects of sight were not improved, and the disease did not seem to be ameliorated or arrested. After nine months' trial the patients declined to submit to further treatment with the serum.

(2) Rost, in 1904 (*Indian Med. Gaz.*, 1904), claimed to have succeeded in cultivating the lepra-bacillus in an achloretic medium, and to have produced from it a "leprolin," made on the same principles as Koch's tuberculin. The bacillus which was cultivated, however, did not prove to be the lepra-bacillus, and the reaction produced by the so-called "leprolin" when injected was possibly due to "filtered toxins from the contaminated media" (Semple).

(3) In the same year Deycke (*Lepra*, 1907, vii, p. 174) succeeded in cultivating a streptothrix from cases of nodular leprosy. This streptothrix he did not consider to be the lepra-bacillus, but from it a well-defined neutral fat was extracted by ether, to which the name "nastin" was given. This, when combined with benzoyl chloride and injected, produced a bacteriolysis, and was said to cause an arrest of the leprous process.

Mode of Invasion.

The path of entrance of the lepra-bacillus is a point of importance with regard to the prophylaxis of the disease, but it is still *sub judice*. It would seem most probable that the bacillus may gain entrance in various ways.

Probably the most common mode of invasion is *via* the *nasal mucosa and upper respiratory tract*. This view is corroborated by the frequency with which nasal symptoms form one of the earliest manifestations of the disease, such as rhinitis, chronic coryza, ozæna, epistaxis, lepromata in the nasal mucosa, and the presence of lepra-bacilli in the nasal discharge.

Kolle (*Deutsche med. Wochenschr.*, 1899, xxxix) examined the nasal mucosa of 137 lepers for bacilli at Robben Island. He found bacilli in the mucus in all the

45 nodular cases. In 30 cases of mixed leprosy bacilli were found in the nasal mucus in 22. In 60 anæsthetic cases he only found the bacillus in the nose in 21. In 30 cases no bacilli were found in the nasal mucosa, but in two of these they were found in the sputum.

The lepra-bacilli may also gain entrance *via the mouth*, and infect the tonsils; and they have been found in the sputum.

With regard to the *alimentary tract* being a path of infection, the evidence at the present time is less conclusive. Nothing suggestive of an initial lesion producing definite symptoms has been located there, nor has the bacillus been found in food-stuffs, except in the human milk.

The invasion of the bacilli may take place through the *skin*, especially when the stratum corneum has been abraded by traumatism, or its resistance lowered by some form of dermatitis.

The *genital organs* may also be the means by which the bacillus gains entrance, and in this case the infection probably takes place from lepromata situated on the penis or in the vagina.

Although the testicles are frequently involved there is no distinct evidence of infection from the semen. Congenital leprosy has not been proved to occur, and in this the disease shows a strict parallelism with tuberculosis, for infants of leprous parents are not born with leprosy, but may become infected subsequently as a result of a hereditary weakness or predisposition and an existence in an environment in which contagion is liable to occur.

MODE OF DISSEMINATION OF THE LEPRA-BACILLI AFTER INVASION.

After gaining entrance the lepra-bacilli may be found widely distributed throughout certain of the tissues of the body. They may occur in the skin, eyes, mucous membranes, lymphatic glands, viscera, and peripheral nerves. They are absent from the muscles, bones and joints. They do not occur in physiological secretions unless pathologically contaminated.

According as the bacilli show a special predilection for the peripheral nerves in contra-distinction to a more general invasion of the tissues, with the formation of nodules or lepromata in the skin and viscera, so the two great types of the disease are produced—namely, the maculo-anæsthetic and the nodular type.

Relation of maculo-anæsthetic and nodular leprosy.—The question of the relation of maculo-anæsthetic leprosy to nodular leprosy raises certain important problems with regard to the pathology of the disease. At the present time the precise conditions which determine that a case should pertain to the one type or the other are imperfectly understood. Various hypotheses have been advanced to explain it. It has been asserted, for example, that the variation in type is simply the result of a *quantitative difference in the number of bacilli,* and that where the bacilli occur in large numbers nodular leprosy results, while if the bacilli are few the manifestations are those of the maculo-anæsthetic type. This explanation is not convincing, because in the mildest cases of nodular leprosy large numbers of bacilli occur, while in the most severe cases of maculo-anæsthetic leprosy fewer bacilli may be found in the nerves and the most careful search for them in the viscera and in the maculo-anæsthetic patches may give negative results. The cause of the vast proliferation of bacilli in the nodular cases is uncertain. Is it a racial peculiarity? Is it the result of climatic conditions? Is there a hereditary or acquired immunity by which an individual is rendered an unsuitable soil for the propagation of the bacilli so that only the peripheral nervous system remains markedly susceptible? It has been suggested, on the other hand, that the difference in type of case is the result of a *qualitative difference in virulence of the bacilli,* and that when virulent bacilli are present nodular leprosy is produced, but where the bacilli are of low virulence maculo-anæsthetic leprosy results.

SOME CONSIDERATIONS ON THE HISTO-PATHOLOGY OF THE LESIONS PRODUCED IN THE TISSUES BY THE DIRECT OR INDIRECT ACTION OF THE LEPRA-BACILLI.

After gaining entrance into a tissue the bacilli appear to lie at first in the lymph-spaces, and owing to their presence produce a mild inflammatory reaction. In comparison with that caused by the tubercle bacillus this reaction is slight, but owing to its prolonged existence a peculiar type of infiltration is the result, which, though it has the same broad characteristics as that of other "infective granulomata," has peculiarities which render its diagnosis certain. At first the infiltration is non-distinctive, and consists of round and spindle-shaped connective-tissue cells (derived from the fixed tissue and the adventitia and endothelium of the blood-vessels), lymphocytes, mast cells, and occasional polynuclear leucocytes should pyogenic micro-organisms be present. So far the situation of the bacilli is mainly extra-cellular. As the bacilli multiply they form colonies or globi united by homogeneous zooglœa, and the infiltration begins to show the presence of plasma-cells around the blood-capillaries. A certain number of bacilli become intra-cellular, and large characteristic cells containing vacuoles, one or more badly stained nuclei, and bacilli singly or in clumps may be noted. These are the so-called "lepra-cells," on the origin of which there has been much diversity of opinion as to (1) whether they are really cells derived from connective-tissue cells or plasma-cells through the presence and action of the bacillus and its toxin within them, (2) whether they are sections of lines of bacilli lying in the lymphatic spaces, or (3) are simply clusters of bacilli round a lymphocyte or other cell. Certain of the "lepra-cells" are enlarged and contain several nuclei, forming a type of giant cell, which is different from the Langhan's giant cell of tuberculosis in that it has neither the peripheral arrangement of nuclei nor the necrotic centre. Giant cells simulating the Langhan's cells have been described from time to time in leprosy, but before accepting these observations it is necessary to be certain that a mixed infection with tuberculosis did not exist. The bacilli enter and spread slowly through the lymphatics, forming new leprous deposits wherever they go, or they are more quickly distributed to neighbouring and distant parts by the blood-stream.

The above, in brief, is the type of cellular infiltration of the "leproma," wherever it may be situated in the body.

In the *skin-lepromata* bacilli have been confined, as a rule, to the corium, and there is generally a thin layer which is free from bacilli immediately beneath the epidermis. One or two observers have detected bacilli in the deeper layer of the epidermis in and between the prickle-cells, and also in the corresponding layer of the hair-follicles, but it is doubtful if they exist in the sebaceous glands, as they have an aversion to fat.

More important as regards the spread of the disease is the fact that bacilli have been found on the surface of the epidermis and in the scales. It is doubtful, however, if these bacilli have reached the surface from within, and it is much more probable that they have been deposited there from the nasal secretion or from the upper respiratory passages by sneezing or coughing. It is possible also that they may have been eliminated by the sweat, as they have been found both in the sweat and the sweat-glands. The presence of bacilli in the small cutaneous nerves, and the changes produced by them, are responsible for the alteration in sensation on the surface of the nodule.

The pathological condition of the nerves in nodular leprosy is of the same type as that in maculo-anæsthetic cases, but it appears later and spreads less rapidly.

Leprous infiltration of the viscera.—With regard to the leprous changes in the viscera little has been added to our knowledge since the last Congress.

In the *spleen,* in addition to the leprous infiltrations in the trabeculæ, pulp, and Malpighian corpuscles, extensive necrotic masses have been described by Arning (Schäffer, *Lepra,* 1900, i, p. 11) like those of tuberculosis with typical Langhan's giant cells. Such cases have to be further verified from the point of view of tuberculosis before they can be finally accepted.

The involvement of the *genitalia* is a matter of great importance with regard to the spreading of the disease, but there still remain certain gaps in our knowledge on this subject.

On the penis nodules and flat infiltrations or ulcers with pus and bacilli have been observed from time to time. Glück noted lesions of this type in ten out of forty cases (*Lepra,* 1900, i, p. 4).

In the testicles, although the connective tissue between the seminiferous tubules is markedly affected, the tubules themselves are not altered, and there is no distinct evidence that the semen contains bacilli. The atrophy which succeeds the sclerosis results in sterility.

It is much the same with the ovaries. The presence of the bacilli excite a chronic ovaritis with interstitial reaction, followed by sclerosis and atrophy. The Graafian follicles are not attacked except secondarily, and the ova are not infected with bacilli (Glück and Wodynski, *Archiv f. Derm. u. Syph.,* 1903, lxvii, p. 39).

The *mammary glands* are apt to be the site of leprous infiltrations, and the milk may contain bacilli.

The *kidneys* may be widely affected with leprous infiltrations, and bacilli have been detected about the glomeruli, the epithelium of the capsule, and in the uriniferous canals, but not in the urine.

In the *lungs* a pure leprous infiltration may exist, with small peribronchial foci and an infiltration of the peri-vascular tissue with lepra-cells, and not infrequently giant cells of the Langhan's type and caseation may be detected, indicating a mixed infection with tubercle bacilli.

The *lymphatic glands*, like the lungs, may be the seat of a mixed infection with tuberculosis, and show caseation and other signs of it; on the other hand a pure leprous infiltration may occur.

Although the changes in the *blood-vessels* in leprosy are now well-known, and bacilli have been found in the endothelial cells, the *blood* changes have not been sufficiently worked out. Bacilli have been detected in the peripheral blood during the active stages of the disease by a number of observers (Köbner, Wolters, Wolff, Doutrelepont, etc.) They were either lying free or in leucocytes or red blood cells. The blood changes are not characteristic, but are similar to those of chlorosis, and are possibly due to the anæmia associated with the disease. Eosinophilia has been observed by Gaucher, Bensaude and others.

Note.—In making blood-examinations in a case of leprosy it is important to avoid taking the blood from a leproma.

Ocular leprosy.—Considerably advance has been made recently in our knowledge of leprosy of the eyes. It is one of the late manifestations of nodular leprosy, and occurs usually after the face, eyebrows, and eyelids have been affected, and it is rarely a primary manifestation. Apart from the involvement of the eye due to pyogenic micro-organisms, or injury where the cornea is anæsthetic, or the eye is exposed through ectropion or paralysis of the sphincter, a true leprous infiltration of the eye may take place. When such occurs it is important to decide whether the infection spreads from within outwards or passes in from the outside. Until lately the generally accepted view has been that the globe of the eye is infected from within in consequence of a general infection, that the choroid is the common seat of the disease, and that the cornea is involved secondarily from the deeper parts.

In a recent paper on the subject Calderaro (*La Clin. Oculist,* 1909) advocates the view that the bacilli reach the eye from without. According to this observer the leprous infiltration spreads on to the globe from the margins of the eyelids, where he found numerous bacilli, even when the lids appeared to be normal. The first signs of this infection consisted of hyperæmia and infiltration of the conjunctiva, and a vascular pannus which gradually became converted into leprous tissue. The sclero-corneal limbus was next attacked, and a diffuse opacity of the cornea occurred, sometimes associated with the presence of small bullæ containing a dirty yellow fluid. The sclerotic usually protected the inner layers of the eye for many years, but before the disease had penetrated through it bacilli might be carried by the blood-vessels to the uveal tract. When this occurred the ciliary body was invaded and the iris became atrophic. The disease usually did not spread far in the choroid and the retina and optic nerve were seldom involved.

Even in advanced cases, where blindness occurred, the tears were not found to contain bacilli.

Maculo-anæsthetic leprosy.—While all observers are at one with regard to the essential features of the histological architecture of the lesions in nodular leprosy, there is still a diversity of opinion with regard to the histo-pathology of the patches in maculo-anæsthetic leprosy.

It has been suggested on the one hand that these patches have the same essential characteristics as the nodules, only less pronounced, and that they are simply an early stage in the evolution of the disease. The latter suggestion, however, is not borne out by the fact that all cases of leprosy do not begin with maculo-anæsthetic lesions. On the other hand it has been asserted that they are totally different from the lepromatous nodules, the one being an infective granuloma while the other is in the nature of a persistent inflammatory process of the type of Erythema perstans. The second suggestion appears to me to be the more probable. At first an erythema occurs which is followed by a slight infiltration of round and spindle-cells about the capillaries, sweat-glands, and hair-follicles, and a deposit of pigment in the perivascular cells. In association with this infiltration no true "lepra-cells" can be detected. This process is centrifugal in its evolution, tending to disappear in the centre, so that ringed lesions may result.

The chief point at issue is the manner in which these changes are brought about. Certain observers believe them to be "neuro-leprides," and to be indirectly produced by the action of the bacilli on the nerves supplying the area affected, in the same way as the bullæ of nerve leprosy. Others regard them as the result of toxins eliminated by bacilli situated at a distance from the skin, and circulating in the cutaneous capillaries, and as corresponding to the "tuberculides" of Darier. Others, again, consider them to be due to the action of the toxins of the bacillus *in situ*, and regard the nerve-change as secondary.

In consequence of these diverse opinions much interest has been centred round the question of the presence or absence of the bacilli in the maculo-anæsthetic patches.

Some observers, such as Looft, Hansen, Pollitzer, Klingmüller, etc., have succeeded in finding bacilli in these patches situated in the endothelium and about the capillaries of the skin. There are others, however, who after the most patient search have failed to find them in true maculo-anæsthetic patches, while they have found them in slightly infiltrated lesions. A single definite instance, however, of bacilli being found in a true maculo-anæsthetic patch is of more value than all the negative evidence. After all it may be extremely difficult to find bacilli in a patch of Lupus vulgaris, and yet no one would deny that they are present and cause the affection. But when it is remembered that the lepra-bacillus, unlike the tubercle bacillus, is a comparatively feeble micro-organism, and even in vast numbers may produce extraordinarily little reaction in the tissues, a doubt is raised as to whether a few lepra-bacilli occurring in the skin are capable of causing a maculo-anæsthetic patch.

It has been asserted that the bacilli are only present in the maculo-anæsthetic lesions at first and disappear from them later into the peripheral nerve-endings, and finally ascend into the peripheral nerves. This assertion has been put forward to explain the failure to find bacilli in the patches (Lie, *Lepra*, 1905, v, p. 78).

The *peripheral nerves* may be involved in all forms of leprosy, but it is in the maculo-anæsthetic type that the involvement is most marked and rapid. In this type of leprosy it would appear that the site of diminished resistance to the bacillus is *par excellence* the peripheral nervous system.

Much good work has been done recently in connection with *nerve-leprosy*, and considerable advance has been made in our knowledge of the subject.

All leprologists are agreed that the lepra-bacilli may affect the nerves in their whole course, but there is no unanimity with regard to the mode of invasion, and opinions are divided as to whether the nerve infection occurs first in the finer endings in the skin and ascends, or is a descending process, the result of a general infection.

Lie, in his excellent monograph (*Lepra in Rückenmark und den peripheren Nerven*, 1904), supports the view that the nerve-endings in the skin are first attacked and that this is succeeded by an ascending neuritis. It is difficult to establish this hypothesis definitely as the earliest lesions are not observed microscopically, and the first changes to be detected have been in the peripheral nerves in the form of leprous infiltrations about the vessels of the perineurium and the endoneurium. The epineurium is not, as a rule, affected, unless from traumatism in exposed situations such as the elbow. The bacilli may be within the connective-tissue cells or plasma-cells, or may lie free in the lymphatic spaces. Between the nerve-fibres they tend to occur in rows rather than in clumps or globi. They have been observed in the neurilemma and the sheath of Schwann (Sokolowsky, *Virchow's Archiv*, 1902, Bd. 189, p. 3), but they have not been detected in the axis cylinder of the nerves. The presence of the bacilli and their toxins lead to neuritis and interstitial proliferative changes, which, by pressure on the vital nerve tissue, cause degeneration and a fragmentation of the axis-cylinder.

Although the bacilli are present in large numbers in the nerve-tissue they do not occur in such masses as in lepromata.

It has been asserted that the painful neuritis set up by the bacillus leads to its eventual destruction, so that nerve-leprosy is, in a fashion, self-curable. This is a hypothesis of considerable interest, as it would mean, if it were true, that many maculo-anæsthetic lepers, in whom the disease is of old standing and appears to be quiescent, are in a sense cured, the actual virus of the disease being no longer present, only the effects in the form of anæsthetic patches or trophic lesions. This is a point well worthy of discussion.

There is a great diversity of opinion with regard to the presence of the lepra-bacillus in the *cord and spinal ganglia.*

Certain changes occur in association with leprosy in the posterior columns of the cord at a certain stage in the development of the disease. These changes are not due to the bacillus *in situ*, nor are they characteristic of leprosy. They are more in the nature of the changes which follow the ascending degeneration of a peripheral nerve after injury. It has even been suggested that they are not due to either bacilli or ascending neuritis, but simply result from the general cachexia attendant on the final stages of the disease.

Babes claims to have found bacilli in the motor cells of the anterior horns and in the cells of the spinal ganglia. The changes, however, in the anterior horns are too slight and inconstant to account for the state of the motor roots and for the degeneration of the motor nerves.

The changes in the peripheral nerve system are responsible for the trophic disturbances associated with nerve leprosy; for the atrophic, weakly resistant skin, which is so liable to infection with pyogenic micro-organisms and to the formation of unhealthy ulcers; for the bullous eruptions, suppression of the sweat, vaso-motor disturbances like Raynaud's disease, loss of power and atrophy of the muscles, and necrotic changes in the bones. In addition to these direct effects, the devitalisation which results from the defective circulation renders the consequences of injury much more severe and retards recovery.

In conclusion I would emphasise the importance of recognising the possibility of the *association of leprosy with other diseases* in the same individual and at the same time. Many mistakes have occurred from failure to recognise this possibility, and from regarding every symptom in a leper as being due to the lepra-bacillus.

Just as syphilis may occur in association with other affections, so may leprosy. The association of leprosy and tuberculosis has been frequently noted in the case of the lungs, and yet there has been a tendency to overlook this possibility elsewhere, and before regarding the caseation with Langhan's giant cells, which has been described in the spleen, lymphatics, and skin, as manifestations of leprosy, it is essential to eliminate by inoculation experiments the possibility of a mixed infection with tuberculosis.

In the case of maculo-anæsthetic leprosy, in which psoriasis-like patches have been described, before regarding these as leprous changes it is well to consider the possibility of psoriasis and leprosy occurring together. It is not unusual to find psoriasis and syphilis together, and there is no reason why a common skin-affection like psoriasis should not occur in a leper.

The simultaneous occurrence of leprosy and syphilis, though unusual, has also been observed.

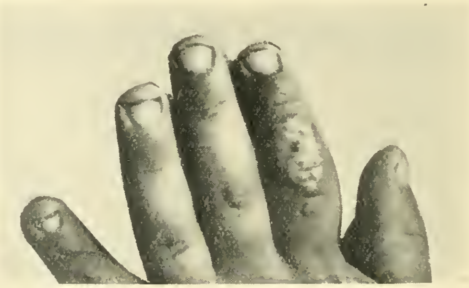
HERPES FEBRILIS ATTACKING THE FINGERS.

By H. G. ADAMSON, M D.

Although Herpes febrilis commonly affects areas where skin joins mucous membrane, cases are sometimes seen in which the eruption is situated on parts of the skin at some distance from mucous membrane, and most works on skin-diseases mention the fact that recurrent febrile herpes may appear upon the cheeks, the neck, or the buttocks, often occurring again and again in the same spot. Dr. Crocker quotes a case of Barthélemy of "an old women dying of pneumonia, in whom some patches on the chest, with very large vesicles, were referable to Herpes febrilis rather than to zoster." I have, however, been unable to find any reference to cases of febrile herpes attacking the fingers, and I think that the following examples are of sufficient interest to be recorded.

Case 1.—A boy who, until five years of age, was in the habit of sucking his thumb, had periodical attacks of an eruption of a group of three or four pin-head-sized vesicles on the end of the thumb. These eruptions were at first put down to the irritation of sucking, but after a time it was found that they coincided with the onset of an ordinary cold, and that a similar eruption sometimes appeared on the forefinger which was not sucked. Once or twice the eruption on the thumb and forefinger was associated with ordinary Herpes febrilis of the lip.

Case 2.—A boy, aged 4 years, a photograph of whose finger is here reproduced, presented an herpetic group of vesicles on the dorsal surface of the second joint of the left index finger. He had been fretful and poorly for some days. There was a single vesicle at the junction of the mucous membrane of the lower lip with the skin. There was no history of previous attacks.



Herpes febrilis (Case 2).

Case 3.—A girl, aged 8 years, suffering from acute apical pneumonia, presented a group of vesicles upon the dorsal surface of the index finger of the right hand.

Case 4.—A girl, aged 9 years, showed a herpetiform group of seven or eight vesicles on the dorsal surface of the fold between the roots of the first and second fingers of the left hand. She gave a history of repeated eruptions in the same situation.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

CASES SHOWN AT THE MEETING HELD ON THURSDAY, JULY 15TH, 1909.

(*Continued from page* 298.)

Dr. HALDIN DAVIS showed two cases of *Lupus erythematosus* :

(1) P. C—, aged 32 years, an Army reservist. The patient has suffered from Lupus erythematosus of the face only for the last seven years. The lesions, which are patchy, show the typical butterfly distribution, but the chief point of interest in the case lies in the deep atrophic scarring left behind, which led to the diagnosis of syphilis by the military authorities with consequent disabilities to the patient. On close examination, however, the alternative of Lupus erythematosus suggested itself, and this diagnosis was supported by the negative result given on examination of the patient's blood by the Wassermann reaction and by a biopsy, which showed merely a small-celled infiltration round the blood-vessels, with no diminution of their lumen, and an absence of plasma-cells. He had already been treated with anti-syphilitic remedies without success. During the last two months he has been treated with zinc ionisation and has made marked progress.

(2) H. R—, aged 33 years, a tailor's assistant. This patient suffered from well-marked Lupus erythematosus of the nose. He was shown in order to illustrate the result of treatment by copper ionisation. Zinc ions were at first used and improvement took place up to a certain point, after which the case seemed to hang fire. Copper ions were then employed and now there is left no erythema, and the only trace of the disease is a little horny plugging of the follicles near the tip of the nose.

Cultures of *Trichophyton rosaceum* from two cases of *Tinea barbæ.*

These cultures were taken from two cases of ringworm of the beard, which are the third and fourth cases of this variety of Tinea barbæ to be published in this country. Dr. Adamson and Dr. Whitfield described the first two. The chief interest in these cases lies in the clinical contrast between the two. In one there were large circinate patches, with festooned, flat red margins, and a few small, flat red lumps with many ground-glass-like stumps. In the other case there were large inflammatory nodules with pustulating points. In fact the inflammation was so marked that at first it was thought to be a case of staphylococcic sycosis until examination of some hairs under the microscope demonstrated the true diagnosis. This seems to show that there is no constant clinical response to infection with any particular variety of tinea. This had been previously found to be the case with *Trichophyton violaceum*, and now it seems to be true of *T. rosaceum* also.

Dr. Alfred Eddowes showed a case of *Erythema gyratum* under the care of Dr. Agnes Savill.

On a recent occasion he had an opportunity of seeing the case, and he had been kindly supplied with the following brief notes:

Mabel S—, aged 29 years. (?) Erythema gyratum five or six years of unknown causation. The efflorescence is all over the arms, buttocks, parts of the back and neck; it is gyrate, pale pink. Sometimes the flush is almost invisible, sometimes deep red. When pale the skin looks as if it were sown with tiny white elevations beneath the surface, but there is no infiltration. There is no definite history of rheumatism. The heart apex is slightly to the left. The patient has had quinine, calcium chloride, alkalies and gentian. Hyd. c̄ cret. gr. j, *b.d.*, and pot. iodid. gr. x *t.i.d.* She was first seen June 1st, and is neither better nor worse for any form of treatment so far employed.

The President said he had seen a case in Mr. Heath's ward many years ago, in which the fingers were like knobs, and several others when he was connected with the East London Hospital for Children. The patient had not noticed that the lesions went away at all.

Mr. Willmott Evans showed a case of *Paget's disease.* The patient was a woman, aged 63 years, who for the last twelve or fourteen years had had something wrong with the skin of the left breast. At first the skin round the nipple was red and slightly irritable; the redness slowly spread, but the most rapid extension is said to have taken place during the last two or three years. The condition at the time of exhibition was as follows:

The skin over the left breast is of a dull red colour; this redness involves almost the whole surface of the breast, extending equally in all directions from the centre. The border is everywhere very sharply marked, and at the margin it can be seen that the red patch is slightly raised above the level of the surrounding skin. The nipple has almost completely disappeared, though a very slight prominence may be noticed at its former site. The substance of the skin is thickened, and cannot be pinched up, while towards the centre an indefinite, deep, hard mass can be felt. Some slightly enlarged glands can be detected in the left axilla. Mr. Evans said he showed the case because it was the most extensive example of the disease with which he had ever met. As to treatment, he considered that the only satisfactory method was complete removal of the breast with the clearing out of the contents of the axilla.

Dr. **Whitfield** said Sir Watson Cheyne excised a breast with a lesion about the size of a sixpence; he made the incision down to the pectoral muscle, and he found the breast glands were stuffed with cancer.

Dr. **Graham Little** showed a case of *Adenoma sebaceum* in a young girl, aged 20 years, who had been sent to him by Dr. J. W. Dickson, of Hertford Street, Mayfair, to whom he wished to express his thanks. The patient was a normally intelligent young woman; she stated that the disease had begun about three years ago and had progressively increased in extent. The lesions on the face were of two types, one a small, raised, red tumour the size of a pin's head, and one a waxy, colourless, translucent papule rather smaller than the red lesion and said to be of later date. On the trunk there were several flat, slightly pigmented fibromata, which have been described in association with Adenoma sebaceum. There was no history of epileptic fits or mental disturbance in the patient or her family; she was the sole member who suffered from a skin-disease.

It was noteworthy that the patient was intelligent, that the disease had commenced later than was the rule, and that both types of lesions —the "type Pringle" and "type Balzer," to use the French terminology—were present at the same time.

Dr. **Pringle** said he had seen cases of the condition who had been mentally unaffected, but they had been epileptic or epileptiform. The old treatment was very unsatisfactory, but could anything better be accomplished by the more modern methods?

The **President** said he thought slight cases were quite consistent with mental stability. It was common to meet with it in the teens, but he had seen it in women over forty years of age. He had brought about improvement of the condition by vigorous curetting, and they could be treated by the actual cautery with a very fine needle. He did not think bromide had anything to do with its causation.

Mr. McDonagh showed *a peculiar form of elephantiasis*. J. R—, publican, aged 65 years, was admitted into St. Bartholomew's Hospital under the care of Dr. Herringham in September, 1906, suffering from cirrhosis of the liver and ascites of some years' standing. In January, 1906, the legs began to swell, and were often so painful that the patient was obliged to sleep in a chair.

On one leg, completely encircling it, extending from just below the knee to just above the ankle, was a warty patch. Each wart was about the size of a pea, and the picture given resembled Condylomata acuminata on a large scale.

A piece was removed for examination, during which some opaque fluid resembling chyle escaped, which was quickly followed by blood. From this day, by the use of sanitas fomentations, the warty excrescences gradually began to disappear, and in a few weeks the skin was quite smooth.

Microscopic examination showed an acanthotic condition of the epidermis, no œdema or leucocytic infiltration; an increase of the papillæ due to new formation of connective tissue; a leucocytic infiltration chiefly affecting the papillæ. So marked was this infiltration that one was surprised at not finding a spongy condition of the epidermis. The lymphatic spaces were enormously dilated in parts, practically taking up the field. Their walls were thickened, showing the process had been going on for some time. The blood-vessels were likewise dilated and surrounded by a mononuclear leucocytic infiltration.

The microscopic appearances were not the usual found in elephantiasis owing to the large amount of leucocytic infiltration, the cause of which could not be satisfactorily ascertained since no organisms were found.

The case was also peculiar in that the thighs were not swollen, and no enlarged glands or anything which could account for the swelling of the legs apart from the general condition could be found. The patient had also never been out of England. The sudden disappearance after making a biopsy was a peculiar feature. Warty conditions not uncommonly occur on an Eczema rubrum, or more rarely as a result of lupus or syphilis. The latter two were to be excluded, and the patient had never had an eczema on the legs.

Dr. G. Norman Meachen showed a case of *Lupus erythematosus* *chiefly affecting the scalp.* The patient was a widow, aged 54 years, who had suffered from progressive loss of hair and "burning sensations" in her scalp for eight years. Her husband died of cancer of the rectum; her parents, one brother, and three sisters showed no signs of tuberculosis. Having in view the close relationship that frequently exists between the latter disease and Lupus erythematosus, it is interesting to note that the patient has lost *eight* children with varying manifestations of tuberculosis of the meninges, the liver, and the bowels, at the ages, respectively, of 16 months, 2½, 3, 5, 6, 7, 9, and 15 years. One child, a boy, aged 14 years, is still living, but suffers from enlarged glands in the neck.

The whole of the posterior portion of the scalp was typically affected with the disease, there being a considerable amount of cicatricial atrophy with corresponding hair-loss. Two small atrophic areas were also present upon the face. An area in the front of the scalp had been burnt in early childhood. The patient complained of severe burning pains in the affected parts and much headache. otherwise her health was good, and there was no albuminuria.

Sir MALCOLM MORRIS and Dr. DORE showed a case of *extensive acne with scars and keloid.* The patient was aged 35 years and a miner by occupation. He stated that his complaint began at the age of seven, but it did not give him much trouble until he was thirty. He had suffered severely from the disease during the past eighteen years with only occasional intermissions, otherwise he had had good health, and the profuse sweating occasioned by his work in the mines seemed to be the only factor bearing upon the cause of his condition. His mother and brothers are healthy, and there is no family history of tuberculosis or of any skin-disease except in the case of his father, who was said to have suffered in his youth from a disease similar to his own.

On examination of the patient the whole of the skin of his chest, back and shoulders was seen to be a mass of scar-tissue, honeycombed with deep irregular cavities, and interspersed with indolent deep red or bluish infiltrations and sub-epidermic abscesses. Here and there a few large comedones were visible. His axillæ, upper arms, abdomen and thighs were similarly, but less extensively and less deeply affected, and there was more normal skin between the scars. On his arms and legs there were only a few scars, some of these being large and circular, some raised in the form of bands, and others surrounded by projecting processes of cicatricial tissue. There were also a few comparatively recent lesions on his scalp. Bacteriological investigation of early pustular lesions from the wrist and elbow gave cultures of *Staphylococcus aureus*. Streptococci and a small motile Gram-negative bacillus were obtained from a subepidermic abscess on the chest.

The opsonic index to the staphylococcus isolated was 1·22 and 0·79 to the bacillus. A differential blood-count gave the following result:

Small lymphocytes	26 per cent.	32·5 per cent.
Large lymphocytes	6·5 ,,	
Polymorphonuclears		66·2 ,,
Eosinophiles		1·3 ,,

No myelocytes or nucleated red cells were present.

It was proposed to treat him with a staphylococcus vaccine prepared from his own lesions. He had previously been treated with five injections of a stock vaccine of staphylococcus in the Newcastle Infirmary with some temporary improvement. He had also had various ointments and a few applications of X-rays.

Dr. Pernet showed a case of *Dermatitis factitia*. The patient was a young man, aged 21 years, sent to Dr. Pernet by Dr. Rodman, of East Sheen. The duration of the condition was now ten weeks, and began with two or three patches on the face. About a week later the trunk and limbs became affected. The lesions were numerous and mainly in the form of abraded bands, about an inch broad by about four in length, but their shape varied, some being irregularly triangular. They predominated about the left upper limb. There were none below the waist. The condition was unusual in the male sex.

OBITUARY.

HENRY RADCLIFFE-CROCKER.

Those who listened on July 15th, 1909, to the few valedictory remarks of Henry Radcliffe-Crocker on the termination of his period of office as first President of the newly constituted section of Dermatology of the Royal Society of Medicine, little thought that was he to pass away so soon from amongst us. He had suffered in later years from several attacks of erysipelas, and his energies were so taxed by a large practice and multifarious work that he endeavoured of late to save himself somewhat by resigning the Treasurership of the British Medical Association and offering his resignation of the post of Physician to the Skin Department of University College Hospital, which, however, he was strongly pressed to postpone. Leaving London for Engelberg, in Switzerland, for a well-earned holiday, he entered into his last long rest suddenly on Sunday, August 22nd. Thus we have lost from our midst a many-sided physician and a dermatologist of world-wide reputation, mourned by a host of friends.

Henry Radcliffe-Crocker was born in Brighton in 1845, and began his medical training in the old-fashioned manner of apprenticeship, and in a northern colliery district. His strong character was evidenced at this early stage by his determination to take a medical degree at the University of London, and he successfully matriculated and passed the preliminary scientific examination. Entering at University College Hospital in London, his ability and industry won him the gold medal in Materia Medica at the first M.B. examination and the University Scholarship and gold medal in Forensic Medicine at the final M.B. examination in 1874, receiving honours also in Medicine and Obstetric Medicine, and finally securing the B.S. and the Doctorate of Medicine. He was then successively a clinical assistant at the Brompton Hospital for Consumption and Diseases of the Chest, Resident Medical Officer at Charing Cross Hospital, and then at University College Hospital, where the writer was at the time a house-physician. In 1876 he succeeded, as Assistant Medical Officer in the Skin-Department of University College Hospital, Mr. Tweedy (now Sir John Tweedy, past President of the Royal College of Surgeons of England), who had decided to resign the post and devote himself to ophthalmology. In 1879, by the sudden death of Tilbury Fox, at the early age of 43 years, the post of Physician to the Skin-Department of the University College Hospital became vacant, and Radcliffe-Crocker was elected to the vacant post, which he occupied with great success as a notable worker and teacher until his death. In his earlier years he was also one of the staff of the East London Hospital for Children at Shadwell.

By many papers on dermatology published in various journals, by demonstrations of interesting cases at the societies, especially at the old Dermatological Society of London, which was such a happy medium of friendship and invaluable training to all attending, Radcliffe-Crocker became recognised as an authority on diseases of the skin, and chiefly by his important treatise entitled *Diseases of the Skin ; Their Description, Pathology, Diagnosis and Treatment,* dedicated to his teacher, Tilbury Fox, and published in 1888 (third edition 1903), and by his well-known coloured *Atlas of Skin Diseases.* He was a member of the Court of Examiners of the Society of Apothecaries of London. Well known as an authority at various international congresses he was honoured by election to various societies in Europe and America. His position in London was marked by his selection as a member of the Council of the Royal College of Physicians in 1906–8.

Amongst other lines of work Radcliffe-Crocker found time to do work for the *Lancet,* which makes a graceful reference to the assistance rendered, and the *British Medical Journal* describes his long-continued interest and work for the British Medical Association, culminating in his position as Treasurer—work which absorbed much time and energy.

From this sketch we see the picture of a man of marked ability and untiring energy, with powers of organisation, who devoted himself with success to whatever work he took up. In the field of dermatology, with which we are more nearly concerned here, he acquired an immense experience, kept himself abreast of the literature, and carefully digested work done by others. With ability and enthusiasm he taught others from his stores of knowledge and experience. He was always open, moreover, to any new ideas, which he speedily put to the test, and this was very well exampled in the matter of treatment.

Lastly, Radcliffe-Crocker was a happy man in possessing a wide circle of friends, who valued his friendship and appreciated his character, and above all in having a devoted wife, who was a real help-meet to him, and the sympathy of all must surely go out to the widow in her time of trouble.

T. C. F.

CURRENT LITERATURE.

DEMODEX FOLLICULORUM OF MAN AND ANIMALS.

F. GMEINER. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 25 [with four diagrams.])

SINCE the discovery of the *Demodex folliculorum* fifty years ago little has been done to determine even in what percentage of individuals it occurs, in what parts of the body it can be found, and what pathogenic *rôle* it assumes in man and animals. This paper gives a good historical summary and description of the morphology. In addition 200 corpses were investigated with positive result. With the exception of infants, the *Demodex folliculorum* can be found on the face of every individual. To it, however, a pathological *rôle* can hardly be ascribed, and it is very doubtful how far transference from animals to man or *vice versâ* can take place, or any dermatitis be set up by it. Exception must be made for a single case of Lewandowsky, whose impetigo-like lesions in man were produced by *Demodex canis*. In this case the *Demodex* was only found in the portions of skin which were diseased, and when it disappeared the skin-lesions disappeared also. A considerable number of cases of alopecia, carcinoma, eczema, furunculosis, herpes, impetigo, lichen, lupus, pemphigus, pityriasis, prurigo, and trichophytosis were investigated, but in most cases the *Demodex* was absent. When it was present it was only in the same percentage as in individuals with healthy skin.

J. L. B.

TUBERCULOSIS OF THE LUNGS AS CAUSE OF DEATH IN LUPUS VULGARIS.

FORCHHAMMER. (*Arch. f. Derm. u. Syph.*, vol. xcii, Nos. 1 and 2, p. 3.)

LUPUS vulgaris is universally acknowledged to be a tuberculous disease of the skin, but its relation to tuberculosis of the lungs has for long been a matter of discussion. Of 1190 patients of the Finsen Light Institute treated during ten years whose history could be followed up, 143 died, and of these 81 died of tuberculous diseases. Excluding the cases which were complicated by visceral, joint or kidney tuberculosis there remained 58 which presented a typical picture of Lupus vulgaris associated with a mortal tuberculosis of the lungs. Only in 8 of these was the lung disease primary. "Lupus vulgaris seldom occurs in phthisical patients, runs, as a rule, a favourable course, is satisfactory to treat, and does not have much effect on the course of the lung mischief." Of the remaining 50 cases which were localised to the face 40 had, at the same time, lupus of the mucous membranes. Comparatively frequently acute tuberculosis of the lungs made its appearance in the early stages of lupus.

The number of cases is small and the length of time is, of course, short, but the present optimism of dermatologists like Blaschko is not borne out by these statistics, and Lupus vulgaris is still undoubtedly the most serious of peripheral tuberculoses. It is not "easier to treat than some resistant forms of psoriasis and eczema."

J. L. B.

THE SPIROCHÆTA PALLIDA: ITS EASY DEMONSTRABILITY, AND A BRIEF REVIEW OF ITS HISTORY. Udo I. Wile. (*Journ. Cut. Dis.*, July, 1909.)

In the course of this article the author discusses proceedings for the collection and examination of suspected material. Scraping or scratching lesions have inconveniences with regard to blood, pain, etc. Prof. Hoffmann employs a small Bier cup. The directions are to clean the lesion with normal saline solution and avoid antiseptics; dry with sterile gauze. Apply a small glass cup fitted with a rubber bulb and serum exudes freely. Remove the cup by gentle pressure on the bulb. The serum is transferred to a cover-slip from the lesion or cup by a platinum needle flattened out at its end like a little shovel. For examination place a drop of oil on both the upper and under surfaces of the slide; the light is turned on and the oil lens is turned down into the field. A dark field-condenser or illuminator, placed on the microscope stage centre and clamped, is used, consisting of central black spot, around which the light in concentrated form is reflected, the microscopic object being seen as a highly illuminated object on a black background. The simplest and cheapest is the last model by G. Leitz. A specially strong light is essential, such as Leitz's small arc lamp with a convex lens, or a strong Welsbach gas lamp, or a Nernst electric light. A convex lens must be interposed between the source of the light and the stage of the microscope. A small diaphragm is necessary, and a $\frac{1}{12}$ in. oil-immersion lens and a No. 4 ocular suffices.

T. C. F.

ON SOME ERUPTIONS OCCURRING AFTER ABDOMINAL OPERATIONS. Prof. Francis J. Shepherd (Montreal). (*Journ. Cut. Dis.*, July, 1909.)

The author refers to the well-known occurrence of eruptions, generally scarlatiniform or papular, after abdominal operations. After eliminating the action of drugs, Shepherd, in many cases, incriminated the enemata freely used in the first week, and established the fact that enemata of cheap and common yellow soap containing resin produced rashes whilst castile soap did not.

He also refers to the ether rash.

T. C. F.

PSEUDO-XANTHOMATOUS LYMPHANGIOMA. William S. Gottheil. (*Journ. Cut. Dis.*, July, 1909.)

Thibierge (*Ikonographia Dermatologica*, 1907) described a unique case, and christened the affection "capillary xanthelasmoid lymphangioma" from its general appearance, though the microscopic findings did not show the changes of xanthoma or Pseudo-xanthoma elasticum. The patient was a woman, aged 35 years. Had noticed soft, lichenified-looking, irregular, yellowish plaques of varying size on the right thigh for thirteen years. They increased slowly without subjective trouble. It was histologically a typical lymphangioma.

Gottheil observed a case clinically similar. A Russian woman, aged 32 years, noticed thirteen years previously on the skin of the outer surface of the left thigh the early lesion, which persisted and grew slowly, and from time to time other lesions appeared in the same neighbourhood. When seen she had three groups, either aggregated or confluent. The elementary lesions are the size of a pin-head or somewhat larger, peculiarly velvety to touch, projecting, more or less circular and yellowish. When packed they look like lichenified skin and the colour brownish-buff.

Microscopical examination displayed cavities of varying size in the papillary bodies and subpapillary region—a superficial lymphangioma with degeneration of the elastic tissue, which, the author thinks, is the source of the yellowish tint.

T. C. F.

ON THE ÆTIOLOGY OF ULCERATIVE GRANULOMA OF THE PUDENDA. J. Burton Cleland. With Clinical Description and Notes on Treatment by Dr. J. R. Hickinbotham. (*Journ. of Tropical Med. and Hyg.*, May 15th, 1909, p. 143.)

Though this affection is rarely seen in this country, it is a comparatively common tropical disease, with a wide geographical distribution. During the last five years Hickinbotham has seen a considerable number of cases occurring in male and female aboriginal natives of Western Australia. The disease, as it occurs in the natives, is a chronic one, lasting in some cases for several years, and it is apt to recur after apparent cure. In the male the earliest signs of it are "round nodules on the glans penis," which are prone to ulceration, which may coalesce to form cauliflower-like masses. As the disease progresses the neighbouring parts become involved, namely, the scrotum, the skin around the arms, and the adjoining parts of the thighs. Inguinal buboes may occur, and the resulting ulcers assume a granulomatous character. Eventually, in the worst cases, the ulceration may extend from one anterior superior iliac spine to the other. The initial lesions in women consist of one or more condylomatous plaques, which spread and ulcerate, and may occur on any part of the vulva. In severe cases great destruction of the tissue of the perinæum and the intervening septa ensues, so that the bladder, vagina, and rectum may be united into one great cloaca. Cicatrisation occurs in the lesions, and this is more noticeable in men than in women, and leads to the formation of dense, rugose, contracting scars. Constitutional symptoms are absent until late in the course of the disease, when cachexia may supervene. With regard to treatment, mercury and iodide of potassium are valueless, and no internal specific has been discovered. Local treatment, on the other hand, may give good results. In early cases the ulcers should be scraped and the nodules snipped out with curved scissors, followed by the free application of pure carbolic acid. The subsequent treatment consists of washing with permanganate of potash and the application of a powder of calomel and zinc.

Various surgical procedures, such as excision, scraping, ligation, cauterisation, should all be employed as indicated, and in men circumcision is always necessary. Repeated small operations give best results. The writer has seen several cases in white men, but these have been mild cases.

Material from seven cases was sent by Hickinbotham to Cleland for pathological examination. Histologically the epithelium showed a tendency to dip down into the subjacent tissues, but there was nothing in the nature of an epithelioma. Granulomatous changes were noted in the corium, with numerous plasma-cells and a more or less dense fibrous stroma. Occasionally plasma-cells were met with containing small hyaline bodies, probably of a degenerative nature. In one case typical spirochætes were found below the superficial ulcerating surface. The organism was thicker than the *S. pallida* of syphilis, and had fewer coils. Their abundance, coupled with their presence below the area infected by outside organisms, suggested the possibility of an ætiological relationship. The same spirochæte was found in another case situated in the epidermis immediately below the stratum corneum. Inoculation experiments on animals, such as monkeys and dogs, were tried, but gave negative results. With regard to the transmission of the disease, the writers consider that it is usually of venereal origin, and Hickinbotham suggests that it may be due to something grafted on a syphilitic infection, but that it is not a syphilitic manifestation. The paper is illustrated by photographs of cases and reproductions of microscopical drawings.

J. M. H. M.

ON SOFT NÆVI. JOHANNES FICK. (*Monats. f. prakt. Derm.*, May 1st and 15th, 1909, pp. 397 and 443.)

THE question of the origin of nævus cells is not finally settled. That certain of the nævi are derived from the epidermis is now admitted by a large number of observers, but whether there are others which take their origin from connective-tissue cells is still a matter for discussion. In this contribution the author reviews the literature in detail, and although he does not formulate any definite conclusions on the subject, the paper will be found to be of considerable value to those who are specially interested in it. A full bibliography is appended.

J. M. H. M.

ON THE TREATMENT OF LUPUS VULGARIS. C. BOECK. (*Monats. f. prakt. Derm.*, May 15th, 1909, p. 441.)

BEFORE the introduction of the actinic ray treatment of Lupus vulgaris one of the most valuable remedies apart from surgical procedure was the careful application of pyrogallol, either in the form of 10 to 15 per cent. plaster or ointment. This remedy has the great disadvantage of being extremely painful, especially when applied to ulcerated surfaces. Professor Boeck has found that the pain can be greatly reduced if the pyrogallol is made up with a gelanthum or mucilage base, and he recommends the following formula:

℞ Pyrogalloli,
Resorcini,
Acid salicylici, āā 7·00,
Gelanthi,
Talci pulv., āā 5·00.
M. f. Pasta mollis.

He does not give the formula of the gelanthum which he employs. Before applying the paste to the diseased area any ulcerations are anæsthetised by 5 per cent. novocaine, or touched with nitrate of silver. The paste is then applied by means of a spatula all over the lupus patch, and a thin layer of cotton-wool is spread over it. The paste dries quickly, and with the cotton-wool forms a permanent dressing, which is allowed to remain on for a week or longer. For a few days after the application oozing generally take place at the edges, but this gradually dries up. The action of the paste may be intensified by the previous application to the patch of some macerating ointment, such as the "unguentum plumbicum." In the case of Lupus vulgaris of the mucous membrane of the mouth he recommends the following:

℞ Resorcini,
Talci, āā 20,
Mucilaginis, 10,
Balsami peru, 5.
M. To be painted on 6–8 times a day.

J. M. H. M.

TWO CASES OF SPOROTRICHOSIS. SPILLMANN and GRUYER. (*Ann. de Derm. et de Syph.*, October, 1908, p. 576.)

THESE cases were of different type, one revealing the lesions of tertiary syphilis, the other of tubercle; to complicate matters the patient was actually suffering from pulmonary tuberculosis. The pus derived from the lesions was inoculated on a culture-tube with Sabouraud's maltose-agar medium, and the characteristic mycelial growth took place. Inoculation of the pus into guinea-pigs produced the lesions of the disease in these. Both cases improved, and were finally cured under the administration of iodides. It is important to note that examination of the pus itself failed to identify the organism, to demonstrate which culture was required.

E. G. L.

FAVIFORM TRICHOPHYTONS. SABOURAUD. (*Ann. de Derm. et de Syph.*, November, 1908, p. 609.)

FAVIFORM culture of animal trichophytons had been described by Sabouraud and by Bodin as early as in 1896. Sabouraud resumes the subject in this paper, and cites the arguments for classing these forms as trichophyta rather than achorions in spite of their cultural similarity with the latter. Only two species have been isolated by Sabouraud, and in every instance the history pointed to an animal origin. These two species are probably different from the two species described earlier by Bodin. Sabouraud names his species (1) "*Trichophyton ochraceum*" from the colour of the culture—a brilliant yellow,—and (2) "*Trichophyton album*," with a white culture exceedingly like the common achorion. Both forms are essentially ectothrix as regards their invasion of the hair, and form sheaths which have certain similarities with the microsporon, except that the spores are exceedingly large—5–8 μ. The cultures grow slowly at the temperature of the room, and should be at first, at any rate, grown in the incubator. The *Trichophyton album* is very easily inoculable in the guinea-pig, the clinical lesion being complete within ten days, and the microscopic appearances in the hair the same as in spontaneous infections. Six cases in which the *Trichophyton ochraceum* was found are described in detail, and an extremely interesting figure is given of a biopsy of a folliculitis caused by the parasite, showing the presence of the fungus round the hair. The cultures of this species also grow badly at a temperature below 20°; their essential characteristic is the growth on the surface of the sugar medium of a bright ochre-yellow tuft. When old, a white downy growth invades the borders of the yellow culture. Inoculation into guinea-pigs are always positive, the lesion being well formed by the eighth day.

The paper is well illustrated by twenty-one figures in the text and a special plate.

E. G. L.

NOTES ON THE COMPARATIVE HISTO-PATHOLOGY OF THE SKIN (TUMOURS, FOLLICULITIS CAUSED BY DEMODEX, BOTRYOMYCOSIS, ETC. AUDRY and SUFFRAN. (*Ann. de Derm. et de Syph.*, October, 1908, p. 545.)

THE first class to be considered in this research which breaks comparatively new ground is warts and papillomata, the commonest of tumours in animals and essentially the same as in man. In dogs papillomata are distinguished by the activity of the inflammatory reaction which they cause. In oxen warts are certainly contagious, and inoculable in men.

Contagious epitheliomata in birds comparable to Molluscum contagiosum in men, but not identical with those forms; an epidemic in turkeys was observed, and inoculation made into a cock from this material with reproduction of the disease. There are histological as well as clinical differences which serve to distinguish this disease from human Molluscum contagiosum.

Connective-tissue tumours are very frequent in animals, and closely resemble the same class in man. It is noted that the pseudo-botryomycosis of dogs, like the similar disease in man, is not a mycosis, and must be distinguished from the cases in which fungus is demonstrated.

Epithelial new growths.—Adenomata are rare in man, comparatively common in animals. They may be classed as—

(1) Hyperplasic adenomata of mixed origin.
(2) Sudoriparous adenomata.
(3) Sebaceous adeno-epitheliomata.

In the first group all the three specimens examined were derived from the dog, and showed their mixed origin from sebaceous and sudoriparous glands. In the second group, also derived from the dog, there was reason to think that the adenomatous formation was provoked by ulcerative lesions, and that they were not new growths in the true sense of that term. In the third group, again derived from the dog, some of the cells of the new growth realised their sebaceous function, but these formed a minority, a fact which seemed to distinguish this condition from simple sebaceous hypertrophy.

E. G. L.

THE BRITISH
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NOVEMBER, 1909.

"LICHEN NITIDUS."

By DR. JOSEF KYRLE,
Assistent der Klinik; and
J. E. R. McDONAGH, F.R.C.S.Eng.,
z. Z. Hospitant an der Klinik.
(*From Professor Finger's Clinic, Vienna.*)

The name "Lichen nitidus" was given by Pinkus to a condition which resembled Lichen planus more closely than any other, but differing mainly in that the exanthem gives rise to no symptoms and is not in any way prominent. The complaint on these grounds can be readily overlooked, and undoubtedly, if noticed, diagnosed as a mild case of this disease.

Pinkus describes nine cases in the "Neisser Festschrift" (*Arch. f. Derm. u. Syph.*), and in only one was the patient aware of the eruption.

Case 1.—A young man suffering from a venereal affection showed a shiny, papular eruption affecting the skin of the penis. The papules were about the size of a pin's head, very closely packed together, but never becoming confluent. The colour was the same as the surrounding skin.

The papules resemble the large follicles which occur in the skin of the penis, but can easily be distinguished by the absence of the yellow colour of the latter and that the follicles become more prominent on stretching the skin; while the papules, being adherent to the epidermis, do not. Again, they do not possess the comedo-like process typical of the follicle.

They simulate also tiny warts, but do not stand out above the epidermis; on the contrary, they reach down into the cutis. Then all of the papules had a slight depression in the centre; and finally, they were too small, smooth, and multiple to be Verrucæ vulgares.

Histology.—The portion of epidermis corresponding to the papule was raised, and on either side shut in by dipping-down processes of normal epithelium. In the centre there was an epithelial downgrowth, the cells of which were large, clearer than normal, and towards the middle undergoing cornification. Around this process, which dipped right down into the cutis, was a collection of polynuclear leucocytes, giving an appearance of a small abscess. This cellular infiltration had also invaded the epithelial cells. Directly below is a sharply defined granuloma consisting of endothelioid and giant-cells.

The vessels running into the granuloma show a proliferation of the endothelial cells and have a mantle of leucocytes.

Around the granuloma is a slight, small, round-celled infiltration, but nowhere are giant-cells to be found.

The next two cases were not described.

Case 4.—A young man suffering from gonorrhœa. The whole skin of the penis was covered with polygonal and round, flat, shiny papules. Their size varied from being scarcely noticeable up to that of a pin's head. Most of the papules were without the central depression. In other respects it resembled Case 1.

Case 5 resembles Case 4, but has an interesting feature in that the patient remained under observation for some years without the papular exanthem becoming larger, spreading, or undergoing transformation, but when the patient was last seen the eruption had almost completely vanished.

Many other cases affecting the skin of the penis and resembling those just described came under observation, and always occurred in patients the subjects of some venereal complaint (gonorrhœa, ulcerations, etc.).

The disease was most common in those who had been circumcised, and the papules showed a predilection for the sulcus coronarius and upper surface of the glans, spreading as far as the external meatus. Those papules on the glans show very distinctly their absence of colour, are opaque, and look not unlike small sago grains.

Case 6 was a well-built, healthy man, who had a large number of yellowish-brown, small, shiny papules on the abdomen, resembling those just described on the skin of the penis.

Histology.—Epithelium corresponding to the papule was thin, and dipping down on either side of the infiltration; lying directly under and invading the rete cells was a long process of normal stratum Malpighii. This infiltration consisted of endothelioid and giant-cells—in short, was a typical picture of a granuloma. Owing to the close proximity of the granuloma to the epidermis many of the cells of the latter had become separated off, wandered into the centre, and showed all the signs of degeneration. In this case there was no horny downgrowth and no sub-epithelial leucocytic infiltration which characterised Case 1.

Pinkus regards this as being an early case, and the abscess formation as a late or further stage of the disease.

Histological examination further proved that these papules had no connection with the hair-follicles.

Keeping these cases in mind Pinkus found others which had the same clinical appearance affecting the body.

Case 7.—Skin of penis and abdomen involved. Histologically the case resembles the preceding.

Case 8.—Penis, scrotum, and bends of the elbows affected. A microscopic examination showed much the same condition as in Case 1. After treating the patient, who was suffering from syphilis, with mercury, the papular exanthem vanished.

Case 9.—A man, aged 27 years, with syphilis, in whom the papular eruption typical of Lichen nitidus did not appear until patient had undergone some mercurial treatment. The abdomen, chest and shoulders were affected, the penis being quite free. The papules resembled in every respect those before described, except that here and there they had a distinct violet hue and between the papules there was an Eczema seborrhoicum. The eruption varied during the two years the patient was under observation; at one time the papules were smaller in number, at another more. They completely disappeared after the first rubbing cure, and then came again. Later much larger papules appeared, which stood out prominently; they were distinctly transparent-looking, resembling the brownish-red efflorescence of Adenoma sebaceum on the face. Histologically this case was interesting in the great number of epithelioid cells and giant-cells which were present, and there was also a more marked small round-celled infiltration in the neighbourhood. This is what one would expect in what undoubtedly is the acutest case under observation, having appeared while the patient was under treatment for another complaint.

In none of the cases could tubercle bacilli or a cause for the eruption be found.

On June 30th, 1908, J. K—, a girl, aged 18 years (worker), was admitted with the diagnosis Bartholinitis dextra acuta with œdema of both labia majora and minora.

The patient had also a papular eruption quite devoid of any inflammatory signs, which was disseminated more or less over the whole body. The parts most affected were the flexor surfaces of the joints, especially wrists and elbows, the axillæ and anterior axillary folds, inguinal regions, and genito-crural folds, popliteal fossæ, and both malleolar regions. In these places the papules were thickly distributed. Apart from the points of predilection, the eruption also occurred on the neck, thorax, especially sides, reaching up as far as the breasts; further, the whole abdomen with the exception of a zone from 3–4 cm. around the umbilicus. The skin of the labia majora was also involved. The extremities, apart from the above-mentioned localities, showed some rash, especially the flexor aspects, also the back up as far as the last cervical vertebra, and in the region of the sacrum. The head, palms of hands and soles of feet were quite free. The single papule is about the size of a pin's head, of the same colour as the normal skin, and only slightly raised above the surface. Throughout they have a waxy, glazed appearance. Some of the papules give the impression of being slightly depressed in the centre. The majority are flat, and some are conical. To the touch they are moderately consistent, and in the richest localities, especially the flexor surfaces and also on the sides of the thorax and on the abdomen, where one met with large groups, the disease appears different, since normal skin can scarcely be seen owing to the number of papules, and on drawing the hand over one gets the impression of a ripple. In such places the colour is reddish-brown with a violet zone, from a distance looking not unlike Cutis marmorata.

On the flexor surfaces of the joints the papules are somewhat confluent, amounting to plaques often quite sharply circumscribed. There are no scales, crusts, etc.

There were no glandular swellings, and examination of internal organs showed nothing abnormal.

The patient says she has had the disease as long as she can remember, that it has not altered, and no periodical changes ever occur.

On July 4th the patient received an injection of 1 mgrm. Koch's old tuberculin, causing a rise of temperature from normal to 100·9° F. without any local reaction in the sense of redness or increase of the eruption.

A biopsy was made, a guinea-pig intra-peritoneally injected, and a portion sutured in the abdominal wall underneath the skin; the remainder was used for histological purposes, fixed and hardened in alcohol, embedded in paraffin and stained after the usual methods.

Histological examination.—The skin as a whole, except where the nodule was situated, showed no changes, except that the basal cell-layer of the epidermis was more pigmented than usual. (Patient was an Hungarian brunette.)

The horny processes in the skin were quite normal; the papillary processes were everywhere well developed, the vessels quite normal, and nowhere thickened or surrounded by a round-cell infiltration.

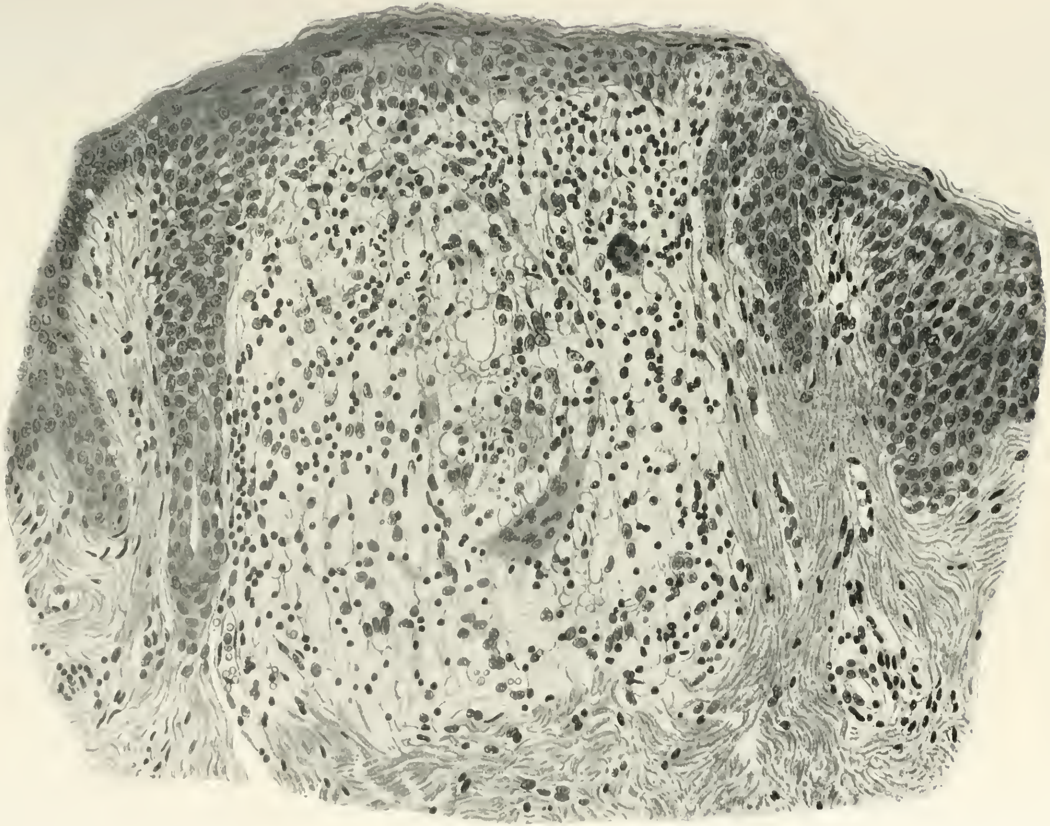
The cutis and subcutis showed no inflammatory changes. In the affected part one sees cells partly conglomerated together and partly separated, the whole being sharply circumscribed. The cells are mostly epithelioid, with a few round cells interspersed of the type of mononuclear leucocytes. These round cells lie in between the epithelioid cells, and are not arranged around the periphery. Giant-cells of the Langhans type are also present. In the centre of this cellular mass the connective tissue appears œdematous, and where the cells are widely separated coagulated œdematous masses are included. In the nodule no signs of caseation are to be seen.

The peculiarity of the nodule is its position, always occurring in the uppermost portion of the papilla right against the epidermis and becoming almost one with it, as it is extremely hard to find the border between the two. The nodule is ball-shaped, as proved in serial section, nowhere throwing out processes into the surrounding tissue. The vessels have thick walls, the lumen being practically obliterated; a perivascular infiltration in the course of the capillaries was not to be found, although occasionally leucocytic elements were found along the length of the vessels, uninterrupted, and somewhat having the appearance of a mantle. The changes in the vessels are similar to those met with in a typical granuloma. Following a nodule in series one notices the vessels entering the lower pole of the granuloma and extending in their course right into the centre of the nodule; this is so constant that one gets the impression that this granulation picture is one and the same as the vessel-changes, and probably depending upon them.

Nothing in the form of a capsule round the nodule could be found.

Owing to the close connection this nodule has with the epidermis, naturally changes are found in the lowest layers of the latter. The cells are separated from their mother position and appear in the infiltration, so one must imagine that the process in the cutis by the peripheral growth, grows into the epidermis, shuts off and includes portions of it. One often sees many epidermal cells in this infiltrate, and extending deep into it, and for the cause of this the following must be the case: The growth in the cutis so close to the epidermis must produce an irritation of the latter and so overgrowth, or antagonistic growth to the nodule, with the consequence that the rete cells grow downwards, the granuloma upwards; no rete cells are found deep in the infiltration. That the epidermis tends to grow downwards seems to be proved by the long processes it sends down, on either side of the nodule, a picture which is so typical in our case, and in these processes one finds a typical acanthosis. This must also account for the papular appearance one sees clinically. The wandering epidermal cells are altered, the nucleus stains badly, the protoplasm appears quite clear—the cell, in fact, shows a typical degeneration. On careful examination one can see the changes from beginning degeneration to complete disappearance of the cell.

The epidermis above shows a normal configuration, but from the stratum granulosum outwards one finds nucleated epidermal cells, in fact a slight parakeratosis. The basis of the papillæ and the subcutis are quite free from cellular infiltration, but one should mention that in the uppermost portion of the papillæ, directly under the epidermis, the elastic fibres have quite disappeared. Bacilli, especially tubercle bacilli, were not to be found. Animal experiments were negative.



To Illustrate the Article on Lichen Nitidus by Dr. Josef Kyrle and Mr. J. E. R. McDonagh, F.R.C.S.

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To sum up, the histological appearances of the nodule, owing to the epithelioid and giant-cells, must relate to a tuberculous process.

The disease should not be confounded with Lichen planus; the transparent appearance of the papules so typical of granulomata is not seen in the latter; further, the lesions of Lichen planus never have a horny depression in their centre.

The papules of Lichen nitidus have no tendency to increase in size, a condition which never fails to occur in a case of Lichen planus of any standing; then there is the absence of the peripheral spread leaving behind a central pigmented, healed area.

The papules undergo no change of colour like those of Lichen planus as they increase in size. Histologically these two conditions could not possibly be mistaken one for the other. In Lichen planus the cellular infiltration has not as a rule so close a connection with the epidermis, and the epidermis over a nodule is thickened, acanthotic, not thinned out as in Lichen nitidus, and the parakeratosis is a very marked feature in the former.

The epithelial processes on either side of the cellular infiltration fail in Lichen planus, and this infiltration is made up entirely of small round cells, containing no endothelioid or giant-cells, and finally the infiltration is not circumscribed, but tends to run in all directions.

In differential diagnosis Lichen scrofulosorum might also come under consideration, but clinically, owing to the non-follicular distribution of the Lichen nitidus papules and the complete absence of scaling, a mistake is unlikely to arise. Histologically there is a closer similarity, but the inflammatory changes in Lichen scrofulosorum originate for preference around the follicles; the granuloma is more pronounced, does not tend to invade the epidermis to the same extent, and is characterised by the well-marked small round-celled infiltration around. Further, the granuloma extends farther down into the corium, and is not shut in on either side by epidermal processes. A marked hyperkeratosis usually occurs in Lichen scrofulosorum.

Comparing our case with those which Pinkus described, on the whole it agrees, but there are certain differences which should be mentioned.

Histologically the case is identical—"a small tubercle with its surface pressed against the epidermis and a tubercle in which no caseation occurs." In both cases the epidermis is secondarily injured—on the one hand destruction of the lowest layers, on the other hand a parakeratosis in the uppermost layers. The granuloma is sharply circumscribed with no surrounding infiltration. The single difference concerns the vessels, which Pinkus has not so fully mentioned. He states : "Belonging to the granuloma are vessels, well marked, with round-celled infiltration and striking increase of endothelial cells." He does not mention whether these are in direct relationship to the granuloma itself and running into it or not.

Clinically, in all Pinkus's cases we have a disease affecting the genitals, while in our case it is universal. Again, our case affects a female, while Pinkus's nine occurred in men. In our case we had a stable disease, while Pinkus often noticed in his not only a retrograde stage but also a recrudescence or increase of the exanthem.

Unfortunately Pinkus did not inject his cases with tuberculin, and lays no stress on the disease being tubercular in origin.

To sum up, the disease is a cutaneous lesion, probably brought about by a tubercular toxin, and characterised by the formation of a granuloma devoid of the usual inflammatory changes.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A Meeting of the Dermatological Section of the Royal Society of Medicine was held on Thursday, October 21st, 1909, Dr. Colcott Fox, President, in the Chair.

The President said that as this was the first time he had taken the chair he would like to thank the members very sincerely for the honour they had done him. It was a very pleasant incident in his life, after being amongst those in that department of medicine for so many years, that they should have thought him worthy of that post.

Another matter to which he wished to refer was a very sad one—namely, the death of the late President of the Section, and also the death of Sir Stephen Mackenzie, who was a member of the Section. Those two distinguished physicians recently passed away, and little did any of those present think, when their late President delivered a short valedictory address at the termination of his presidency, that he would be taken from among them so soon. Very detailed accounts had been given in many publications of his laborious life and his abilities, and therefore he would not refer to them there, but all would agree that his ripe experience would be sadly missed at the demonstrations of interesting cases which were held by the Section.

Sir Stephen Mackenzie was a well-known physician, who was immensely interested in dermatology, and had made many valuable contributions to its study. Unfortunately they had not had the advantage of his presence at many of the late meetings on account of bad health.

Finally, he had a word to say about the working of the Section. One of the pleasantest remembrances of his life was the working of another society, to which many of the members of this Section belonged, which was admirable for the development of their knowledge, and to which he personally owed an enormous debt, as well as for the happy relations which were established amongst those who belonged to it. He hoped those conditions would be perpetuated in the Section. Certain formalities must be observed to enable the business to be carried through, but happily they had not had too many rules to guide them; it had been left to the unselfish conduct of members, so that all could really see the cases in a satisfactory way. It did entirely depend upon members being unselfish and always remembering that there were others besides themselves to see the cases that the meetings would be conducted in a satisfactory manner. He wished the Section every success, and it was certain that in the past two years they had made a most promising beginning. He hoped it would be equally successful under his presidency.

Dr. H. G. ADAMSON showed (1) a case of *multiple scars simulating Leucoderma syphiliticum.* The patient was a blacksmith, and presented over the side of the neck numerous rounded, split-pea-sized, whitish patches, which on first view suggested Leucoderma syphiliticum. There were, however, similar whitish patches on the forehead and over the right arm and shoulder, and on inquiry it was found that these were the result of slight burns produced by flying sparks from the anvil. There were two or three recent blisters thus caused. The white patches were less regularly placed and not so uniform in size as those of Leucoderma syphiliticum.

(2) A case of *small follicular syphilide of the corymbose type.* There had been groups of follicular papules centred by a lenticular papule. The case was shown as being a well-known though somewhat rare type of syphilide. A noteworthy feature was that the larger papules and the small follicular papules, which had now disappeared, had left pigmented scars.

(3) A case of *small follicular syphilide* of the more ordinary type, with numerous patches on the trunk and limbs made up of grouped follicular papules.

Dr. GRAHAM LITTLE showed (1) a case of *Lichen scrofulosorum.* Fred V—, aged 9 years, was a patient who was now, and had been for three years, under the charge of the exhibitor's surgical colleague, Mr. Bowens, for enlarged glands in the neck which were presumably tuberculous. The boy's maternal grandmother and maternal aunt had died of phthisis and he himself was a delicate, undersized lad. The eruption for which he had been sent to Dr. Little for diagnosis had appeared recently, and was a beautiful example of the type described as Lichen scrofulosorum. Several small collections of papules individually the size of a pin's head and forming circinate groups the size of a shilling or a florin were seen on the flanks, the back part of the trunk, the buttock, and in one axilla. The papules were follicular in position, of a pale pink colour, very slightly raised above the general level of the skin, and produced no subjective sensation.

The eruption was in the exhibitor's experience one of the least common of the tuberculides. He had seen it, however, in association with Lupus vulgaris, with tubercular dactylitis, and with tuberculous glands. It was usually an evanescent eruption, but none the less definitely tuberculous.

(2) A man, aged about 35 years, the subject of an acute and very extensive eruption of *Erythema iris* type: The lesions were too numerous to count and covered the shoulders, the back, the chest, the buttocks and thighs; the hands and feet and mucous membrane were entirely free. The lesions consisted of rings of variegated colour, such as had been described in Erythema iris, but without actual central vesication; the rings varied in size from a quarter of an inch to two inches; the periphery was slightly raised, but there was no definite œdema or wheal-formation and no itching. Factitious urti-

caria, however, was well marked. No drugs or medication could be held responsible for the advent of the rash.

(3) A case of *Urticaria pigmentosa* of very exceptional severity: The mother's history was to the effect that the child had been born perfectly free from any eruption, but had begun to develop the present condition fourteen days after birth; it was now six months old, and the greater part of the body, the face and scalp, was entirely covered with macules and small, shotty, hard papules the size of a split-pea and of a buff-brown colour. The papules as well as the macules were exceedingly numerous, and the child's skin presented a most extraordinary appearance. The whole surface was affected so that on no part of it could a sixpenny-piece be placed without obscuring a lesion—either macule or papule—except on the ankle and foot; here the skin was clear. With this exception the whole body was involved, but there were no lesions of mucous membranes.

The child had been seen first during the exhibitor's absence and had been diagnosed as suffering from syphilis and consequently treated with anti-syphilitic remedies, which had not had any effect in the two months of trial of them. The child appeared to be very itchy as the lesions were much irritated. The characteristic tumefaction and suffusion of the lesions, with change from brown to dusky-red, occurred on friction. There was no history of syphilis and no other children were affected in the same way.

Dr. J. M. H. MacLeod showed a case of *cystic rodent ulcer*. The patient, a man, aged 77 years, came to Charing Cross Hospital in January, 1909, suffering from a rodent ulcer of a peculiar cystic type, situated on the left cheek immediately below the left lower eyelid and on the level of the left ala nasi. The appearance of the lesion is illustrated in the accompanying photograph. The tumour was about the size of half a cherry. It was semi-solid in consistence, partially translucent, and felt as if it were made up of a number of small cysts containing a colloid substance. The skin over it was smooth and glossy, somewhat of the tint of ground glass, and presented a few dilated capillaries ramifying in it. The lesion was rounded in contour, with a slightly baggy appearance in its lower portion. At the upper and outer aspect of it there was a small solid "cartilaginous" border about a quarter of an inch in length, which had the typical appearance of the rolled edge of a rodent ulcer. When the growth was squeezed between the fingers small beads of sero-pus exuded from it below the cartilaginous border. There was neither itching nor pain associated with the lesion. According to the patient it began eight months before he came to the hospital. Treatment with radium was begun on March 18th, when the lesion was exposed piecemeal, each part for half an hour, to 5 mgrm. of spread radium bromide of an estimated radio-activity of 1,800,000, so screened that the α- and soft β-rays were cut off. A characteristic reaction occurred in about twelve days. The lesion became soft, an acute inflammatory halo appeared around it, and the skin on the surface broke down, showing the interior to be a multilocular cyst like a honey-comb. An adherent rupial scab formed which separated towards the end of April, leaving the lesion reduced to half its original size. A second series of exposures of an hour's duration was given, and as a result a further diminution in the size of the lesion took place, and only a few small nodules were left, which were dealt with by several small exposures. By the beginning of August the lesion had disappeared and the condition was as shown in the second photograph.

The special interest of the case was the cystic character of the growth. The occurrence of small cysts filled with cellular *débris* has long been recognised as a characteristic of rodent ulcer, and been regarded as the result of a degeneration of masses of epidermic cells. A growth of the nature of the one exhibited, in which the most marked feature was the cystic formation, and in which the cysts instead of being filled with cellular *débris* contained a semi-fluid colloid substance, is unusual. The exhibitor was greatly indebted to his colleague, Mr. Charles Gibbs, for giving him the opportunity of studying and treating the case.

Sir MALCOLM MORRIS said he had recently seen a man from India with a large growth of the lower eyelid, and on pricking a little nodule fluid came out, proving that it was cystic. It was a typical rodent ulcer and reacted to radium perfectly. He thought a primary cystic condition was not rare.

Dr. LITTLE had seen five years ago a case of a large cystic rodent ulcer of the back in an elderly gentleman who had had it for ten years. There were definite fluid collections in the parts of the site involved, and microscopic examination had shown typical histology of rodent ulcer as well as cysts in this section. This case had done very well with salicylic acid plasters worn continuously.

Dr. **Sequeira** had seen several cases of cystic rodent ulcer. In rare instances the cystic condition was apparently primary, but it occurred more commonly in his experience in deep recurrences. In some cases it had followed apparent cure of superficial rodents by the X-rays. In two instances he remembered the cysts being in the superior maxilla and malar bones. The formation of cysts in this variety of malignant disease had been described in detail by Dubreuilh.

Sir **Malcolm Morris** and Dr. **Dore** showed (1) a woman, aged 31 years, suffering from *thickening of the skin of the palms and soles* which had begun and gradually increased during the past two years. In addition to this hypertrophy there was hyper-pigmentation and great irritation of the skin of her body. When the patient became heated an itching erythematous rash appeared on the trunk. She had lost flesh and was weak and anæmic. Her mouth and tongue were normal and there was no abdominal tenderness. Her menstrual functions had been in abeyance for eighteen months. No diagnosis had been made, but some aspects of the case suggested early Acanthosis nigricans. A further report will be made.

(2) A man, aged 40 years, an ironmonger by trade, who had a curious *affection of the finger and toe-nails*. The patient had no very distinct recollection of the date or mode of onset of the disease nor of the order in which the nails were attacked, but he thought it was three years since he noticed that the nails were not natural and eighteen months since they had begun to give him trouble. The first thing he observed was a little black mark at the side of the nail, followed by a gradual destruction proceeding from the lateral and free edges, and accompanied by loosening and detachment of the nail from its bed. A new nail would then begin to grow and become affected in the same manner. All the nails of the fingers and toes were affected. They were raised, convex, filbert-shaped, of a greenish-brown colour, and showed slight transverse striation. Some were loose and easily raised from the nail-bed and painful when bent back, so that his work was interfered with. The nail of the right first finger had been detached and an imperfectly formed new nail was growing. The toe-nails showed the same changes with the exception of those of the great toes, which were hypertrophied and incurved, resembling a ram's horn (onychogryphosis). The patient suffered from a bad circulation and excessive sweating of the hands and feet, conditions which were thought to have some bearing on the causation of his complaint. In other respects he was

apparently healthy, and no member of his family had been similarly affected.

Dr. DORE said he had made scrapings and examined for ringworm fungus, but the result was negative. He had also made cultures from under the nail, and they were mixed staphyloccus, chiefly *aureus* and *albus*, and some streptococci.

The PRESIDENT pointed out that Sabouraud said that nail-diseases could be produced by both staphylococcus and streptococcus. He suggested that the nails be removed and the bed of the nail treated.

Dr. WHITFIELD said that in a case of Hyperkeratosis subungualis the nails were removed and the whole of the nail-bed cauterised, the new and healthy nail becoming re-attached to the nail-bed.

Dr. PRINGLE said those conditions were often amenable to arsenic.

Dr. G. PERNET said he had seen a case something like that in a lady, in which all the nails were affected somewhat in the same way—toes and fingers—and he attributed it to a central nerve origin. He would, as Dr. Pringle suggested, try arsenic.

Sir MALCOLM MORRIS said that he had showed a case a few weeks ago of violent *acne, with scars*. A vaccine had been made by Dr. Eastes, and yesterday he had had a letter from the man and from the doctor in the North saying that every trace of pustulation had entirely gone, and that the condition was now practically well. He had had seven weekly injections, and had volunteered to come and show himself later on.

Dr. G. T. WESTERN (introduced by Dr. SEQUEIRA) showed a *series of cases of scrofulodermia and lupus treated by tuberculin injections.*

Of the five cases exhibited, the first four illustrate the value of tuberculin inoculations in scrofulodermia. Of these four cases it will be seen from the notes that they were all cases of infection of the skin secondary to infection of the lymphatic system. Cases 1, 2 and 3 have definite histories of tuberculous glands having been scraped or having burst spontaneously, and afterwards, instead of healing, having spread to form more or less extensive ulcers, in spite of various lines of treatment. Case 4 appears to have had the primary infection on the hand and subsequently a gradual spread up the lymphatics of the arm as far as the axilla, many ulcers forming as the skin over the lymphatic channels broke down.

The treatment in these cases was by injections of minimal doses of tuberculin at intervals varying from six to ten days. By minimal doses one means the smallest dose which will produce a beneficial result. The opsonic index was taken at the commencement of treatment, and again should improvement cease it was used as an indication whether the dosage was correct. The opsonic index had not been taken regularly all through treatment.

Two different varieties of tuberculin were used, T.R. and B.E., both made from human strains of bacilli.

Cases 1 and 2 were treated with B.E. and Cases 3 and 4 with T.R.

It appears that these two varieties are equally efficient in bringing about healing.

The local treatment was, in Cases 1, 2, and 3, the application of a solution containing 3–5 per cent. sodium chloride and 1 per cent. sodium citrate. A piece of lint was cut to fit the ulcer, wrung out in the warm saline solution and applied under a piece of gutta-percha tissue. This dressing was changed frequently, as it soon became soaked with lymph owing to the difference in surface tension between the tissue fluids and the salt solution. Before applying this solution the skin around was well greased to protect it from the irritation of the salt.

When healing was nearing completion the saline dressing was replaced by eucalyptus ointment.

In Case 4 the axillary abscess was incised. No other local or general treatment was given during the period in which these cases were under inoculation treatment.

Case 5 is one of Lupus vulgaris. The treatment of non-ulcerated lupus by inoculation has been somewhat disappointing, except in association with the Finsen light. This is one of the more or less severely ulcerated cases which have been treated successfully by inoculation with tuberculin.

CASE 1.—M. C—. Tuberculous glands of neck (right side) were opened and scraped in August, 1906. The wound was sewn up but did not heal well.

A few weeks later the wound broke down and an ulcer formed which spread upwards and downwards.

In November, 1908, she was sent to the Inoculation Department at the London Hospital by Dr. Sequeira. The ulceration was considerably more extensive than is shown in the photograph (taken July 7th, 1908).

The opsonic index was fluctuating, probably owing to the reaction following the application of X-rays.

Tuberculin injections were commenced in November, 1908, and have been continued until now. The dosage has varied from ·0001 mgrm. to ·005 mgrm. An occasional staphylococcic injection has also been given. Locally, a dressing of hypertonic salt solution was used at first, and later this was changed to eucalyptus ointment.

Under this treatment the whole of the ulcerated area has completely healed (see photograph, taken October 26th, 1909).

Case 2.—A. A—, aged 34 years. In July, 1908, the patient had broken-down tuberculous glands of the neck. They were opened, scraped, and the wound sutured. The lower end of the scar broke down three weeks later. Two chronic ulcers formed in the middle line of the neck, which resisted all treatment for nine months.

In May, 1909, she was transferred to the Inoculation Department by Mr. Mansell Moullin. Tuberculin was given in doses commencing with ·00005 mgrm. and increasing to ·0005 mgrm.

In August the ulcers had completely healed.

A local dressing of hypertonic salt solution was used at first and later eucalyptus ointment.

Case 3.—J. G—, aged 6 years. According to the mother's account a lump appeared on the right side of the face. This she poulticed until it broke down. Since then the child has been attending various hospitals. The condition has steadily become worse, the ulceration spreading in all directions until June, 1909, when she came to the London Hospital.

A large ulcer about three and a half inches in length was then present on the lower jaw on the right side. The edges were heaped up and keloidal, the floor was covered with unhealthy granulations, the base was infiltrated.

Injections of tuberculin were given for three months, during which time there has been considerable improvement. The case is still under treatment.

Case 4.—Mrs. G—, aged 45 years, sent to the Inoculation Department at the London Hospital by Mr. F. S. Eve in November, 1906. The patient's history was that a small red patch appeared on the thumb in 1899. This became ulcerated. Similar patches appeared on the forearm and arm, each breaking and forming an ulcer.

In November, 1906, the whole of the left arm and forearm was swollen and œdematous and covered with chronic granulomata surrounded by scar-tissue. Many of the ulcers were secondarily infected. The axillary glands were enlarged and breaking down. The condition was so severe that amputation (fore-quarter) was considered. However, it was decided to try inoculation first. The tuberculo-opsonic index was ·5.

On November 27th, 1906, ·0001 mgrm. tuberculin was given, and the axillary abscess was drained.

On December 13th the arm was free from pain for the first time for three years, and the ulcers had commenced to heal. In January, 1907, the arm completely healed.

Eight injections of tuberculin were given, the largest dose being ·0002 mgrm. There has been no recurrence.

Case 5.—H. H—, aged 24 years. A patch of Lupus vulgaris appeared in 1897 on the right cheek. It spread to the neck and round the mouth and nose. Patches of ulceration also appeared on both arms.

In September, 1905, he was transferred to the Inoculation Department by Dr. J. H. Sequeira. Both cheeks presented severe ulceration, which extended downwards on to the lower jaw and on to the nose (see photograph). The dorsal aspects of the arms also presented large ulcerated areas.

The tuberculo-opsonic index was ·8. Injections of tuberculin were given, commencing with ·0002 mgrm. and increasing to ·02 mgrm.

In September, 1906, the arms had entirely healed and the face had made good progress. Since then progress has been steady though slow until the present, when healing is practically complete.

Dr. W. Kenneth Wills showed *a case for diagnosis.*

J. E—, aged 20 years, of dark complexion and many pigmented nævi.

Presented a symmetrically arranged mass of pigmented, acuminate, sebaceous papules on the nose and contiguous cheeks, forehead, malar regions and chin.

The lesions were dark brown, acuminate papules, of the size of a double-B shot, situated round a sebaceous follicle, so that the dilated mouth of the follicle occupied the summit of the papule. The lesions were discrete for the most part, especially in the recently developed areas; but in the older part they are so closely aggregated as to raise the level of the intervening depressions. All the lesions were intensely sebaceous and were remarkable for their deep-brown pigmentation, which extended in some instances outside the base of the papules themselves.

The groups on the cheeks were pustular and confluent owing to a superadded infection.

From the follicular openings a thinnish oily fluid had been seen to exude, but they were not plugged with fatty comedones.

The skin intervening between the papules and beyond the areas involved was not particularly sebaceous, nor were the follicles more patent than usual.

On the back and chest were a few scattered acne papules of an ordinary nature, without pigmentation of any kind.

Associated with this rash was a severe necrosis of gums and onychia on several of the nails on the hands and feet.

The patient came under observation two and a half years ago, when the rash only occupied the tip and alæ of the nose and appeared like an Acne rosacea on a darkly pigmented skin. As ordinary treatment for Acne rosacea had no effect upon the lesions and taking into account the pigmentation anti-specific treatment was tried, without effect other than increasing the gingivial necrosis. Biopsy had added little or nothing to the diagnosis, though the picture was compatible with tubercle. So Von Pirquet was tried and injections of T.R., without reaction being obtained. Calmette's test was not applied as he had frequently recurring attacks of conjunctivitis.

His own vaccine was used for the pustulation of some of the lesions which happened occasionally, but this had no effect upon the lesions.

Of the various treatments adopted X-rays was the only method which could claim any good result. This succeeded in flattening the papules without removing the pigmentation or having any effect upon the spread.

The suggestion was offered that the case was a follicular tuberculide; and compatible with this was the fact that he lives in the same house as a brother who was suffering from a chronic fibroid phthisis.

The President said it was suggestive to him of a condition of which several members had published examples, namely, of a form of seborrhoide, and those cases yielded with the greatest readiness to sulphur preparations.

Dr. J. M. H. MacLeod said that the case suggested a tuberculide, and somewhat recalled cases which had been shown at the Dermatological Society of London under the heading of "Acne agminata."

Dr. Little well remembered Dr. Pringle's case of a rare seborrhoide and at first sight thought the case resembled Dr. Pringle's; there was, however, in Dr. Pringle's case more papulation, and, as far as he could remember no definite scarring. The amount of the latter made tuberculosis a probably underlying factor.

Dr. Wills replied that he had employed both sulphur and salicylic acid locally.

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, HELD AT BELFAST.

REPORT OF THE PROCEEDINGS OF THE DERMATOLOGICAL AND ELECTRO-THERAPEUTIC SECTION.

By S. E. DORE.

The proceedings of the Section were opened on July 28th, 1909, with an introductory address by the President, Dr. Wm. Calwell.

In giving an outline of the history of dermatology in Belfast, Dr. Calwell said that a small skin-dispensary was instituted by the late Dr. H. S. Purdon in 1865, and was followed by the Benn Hospital for Skin Diseases in 1875. Out-patient skin-departments were subsequently formed at the Royal and Mater Infirmorum Hospitals, and more recently these had been equipped with Finsen light and X-ray installations. Referring to the position occupied by dermatology in the education of the medical student, Dr. Calwell said that at present it comes as a hurried and scamped course at the end of the curriculum. This is a mistake, for there could be no better education in observation, in watching the change of disease, in taking note of the effect of remedies than the study of dermatology, where everything lies open and clear before the observer.

Dr. Louis Wickham, Medical Superintendent of the Radium Institute, Paris, then gave a paper and lantern demonstration on "Radium and Radio-therapy in Skin-Diseases."

The following is a summary of his remarks: The apparatus for radium treatment consisted of (1) radium contained in glass tubes, which might be introduced into the passages of the body or into tumours, and (2) radium in varnish, either in the form of a rigid apparatus with a metallic base, or spread on some flexible material, such as linen. Since the introduction of filtration by screens of aluminium, lead, or other substances, radium-therapy had undergone a complete change. The quantity of the rays could be modified by employing screens of varying degrees of thickness; and their quality was also changed on account of the alteration in their penetration. Radium might be applied—(1) Naked, when the rays were very numerous—this method was used for superficial conditions, such as lichenification of the back of the neck; (2) with medium filtration, the rays being less numerous, for deeper conditions, such as epithelioma; (3) with thick filtration, the rays being few in number and very penetrating, for deep-seated growths. (Examples of these conditions were illustrated by lantern-slides showing cases before and after treatment.) It was not always necessary to produce inflammatory reaction, because the rays had a specific effect, and if a deep action was required the applications might be prolonged without causing any surface inflammation. In some cases the method of "cross fire" might be employed. (Models, by Baretta, of a large carcinoma of the side of the face of a patient were shown, in which unscreened radium was applied to the surface; a screened apparatus was used for the deeper parts of the growth, and a tube containing radium was introduced into the interior of the tumour. The tumour underwent a fibromatous change and became flattened and very much reduced in size as a result of the treatment.) The radium apparatus might be applied either by holding it in the hand, by fixing it with pincers, or by employing various supports, such as a catheter, to introduce it into the cavities of the body. The emanation could also be used, and various substances, such as radiferous quinine, grey oil, or radio-active waters might be of great service in skin-diseases.

After having demonstrated the action of radium on epitheliomata of the skin, angiomata, cheloids and other diseases by a large number of excellent lantern-slides, Dr. Wickham concluded by saying that radium-therapy could not be limited to any one method of application, and that various methods must be employed in different cases.

Discussion.

In proposing a vote of thanks to Dr. Wickham, Sir Malcolm Morris said that this new therapeutic agent—radium—had happily fallen into the hands of a trained dermatologist. Filtration, which they owed to Dr. Wickham, had constituted an epoch-marking advance in radium therapeutics; it was not an exaggeration to say that just as in general surgery there were two great epochs, before and after Lister, so in the application of radium in medicine there were also two epochs, before and after Wickham. With respect to the question of filtration, the three rules to which Dr. Wickham had drawn attention were really the key to the position at the present moment. The cases in which he was particularly interested were those to which Dr. Wickham's third rule applied. He had recently had a case in which three tuberculous glands, which had been removed and had recurred after operation, disappeared after exposures of two hours daily for six days with 2 mm. of lead interposed between 25 mgrm. of radium and the healthy skin. Rodent ulcers were easily removed by radium without pain and with simply the formation of a crust, which fell off in five, six or seven weeks. In many cases of inoperable epitheliomas inside the mouth which he had treated, radium had relieved the severity of the symptoms and prolonged life, but he had not had a single case of cure.

Prof. R. B. **Wild**, in seconding the vote of thanks, said that his own experience of radium had been small and belonged chiefly to the pre-Wickham era. Work done in that era would rank as pioneer work, but as compared with it, Dr. Wickham's results represented the difference between science and empiricism. He had had the great advantage of possessing sufficient of the remedy to cover an adequate portion of the skin at one time. Others had results which promised much, but the area over which they could apply the radium was so small that in the class of cases the speaker saw at the Manchester Cancer Hospital the chief benefit lay in the treatment of isolated nodules. He had been much interested in the difference between skin-lesions and mucous membrane lesions on which Sir Malcolm Morris laid stress. The speaker found no good results on the mucous membrane in the case of small epitheliomatous growths at the orifice of the salivary ducts just beneath the tongue. The way in which some of the lesions involving cartilage healed up under radium was very wonderful. The deeply penetrative powers of the gamma rays, after being filtered as Dr. Wickham filtered them, were hopeful for secondary gland lesions of cancer hitherto inoperable and untreatable. The cross-fire method, offering as it did a favourable means of reaching the deep tissues, was likely to be useful. Radio-active substances, such as uranium and thorium, had no effect on nerve-endings.

Dr. J. **Goodwin Tomkinson**, continuing the discussion, remarked that he had become familiar with the therapeutic applications of the X-rays, and though excellent in ringworm and other conditions they were not so satisfactory in rodent ulcer. There might be an immediate improvement, but there was subsequent recrudescence. The discovery of a more potent therapeutic agent was therefore to be hailed with delight. There was one particular, however, in which these two physical agents approximated: when injudicious doses of either were given, telangiectatic scars developed.

Dr. J. H. **Sequeira** said he had found radium particularly valuable in dealing with small lesions, but it was only by the method of spreading the radium over a surface that they had been able to advance. He had treated some 170 cases, many of them in the pre-Wickham era, and had reached the conclusion that in radium they had rays which were of greater penetrative power than the X-rays, or rather, manageable rays that could be used for greater penetration. He had been filtering the X-rays for some time past. One of his assistants devised a filter consisting of lint soaked in sodium tungstate, and by this means it was possible materially to influence the course even of mammary cancer and cancer of the glands and tuberculous glands. He had also used a thin sheet of aluminium as the method of filtration in radium, and had treated the infiltrated edges of rodent ulcer around the nose, where the involvement of cartilage was a very troublesome factor, and difficult to cope with by means of X-rays alone. With regard to epithelioma of the mouth, Dr. Wickham and he were interested in a case which had greatly benefited under radium, but there had been some recurrence in the palate. His radium was of small quantity, but it produced a distinct effect upon the patient, who had since been under Dr. Wickham's care, with most excellent results.

Dr. S. E. **Dore** said that Dr. Wickham had done for radium what Holzknecht and Sabouraud had done for the X-rays. He (Dr. Dore) had seen good results in the early days of radium treatment, but owing to the small quantities used, the small surface applied, the short exposures and the absence of filtering, the results were not to be compared with those he had seen in Paris and in Sir Malcolm Morris's cases. Thanks to the work of Wickham, Degrais, Dominici, Beaudoin and others, radium treatment has now been placed on a scientific basis. In contra-distinction to X-rays, radium rays were divisible into α, β and γ rays, but it was strange that the first two, which consisted of material particles, should have a similar therapeutic effect to the γ rays, which are vibrations of the ether. The α rays being intercepted by a sheet of tissue paper were practically negligible; the γ rays could be used without the β, but not the β without γ. Polonium, however, only gave off α rays, and it was possible to separate the α and β rays by means of a magnet. He would like to ask Dr. Wickham if any difference in the therapeutic effect of the different rays had been ascertained. It would also be interesting to know which variety of the rays was most likely to cause telangiectasis, and if any other harmful results, such as permanent alopecia, chronic dermatitis or epithelioma, had been seen to follow radium applications. Could hypertrichosis or Tinea tonsurans be treated with appropriate doses of radium?

Dr. W. B. C. **Treasure** wished to know what was the present position of radium in the treatment of lupus.

Dr. J. **Metcalfe** said that a great deal had been heard about the penetrative power of the α, β, and γ rays, and that the last-named had an effect on the deep tissues, but was there any intrinsic difference in the actual results obtained?

Dr. J. A. **Codd** said that radium appeared to be more amenable to accurate measurement and adequate handling than the X-rays. Was it possible in some way to co-ordinate the two sources so that results in radium might be expressed in terms of X-rays, those who worked only in the latter being thus able to take advantage of the results obtained by the radium workers?

Dr. **Wickham**, in his reply, said that it would be very difficult for him to answer all the questions which had been raised. It must be understood that radium science was only at its beginning; when they spoke about mensuration they were only taking the first steps, and might be very far from being finally right. He was not prepared to say what was the precise part played respectively by the beta rays or the gamma rays. It would be very interesting to know. They only knew that, using filters of a certain thickness—say 4 mm. of lead—nothing but gamma rays could act, and those only after a long application. Telangiectasis following upon radium treatment seemed to depend upon the tissues themselves. If rodent ulcer or pigmentary nævi or flat vascular nævi were treated by producing inflammatory conditions, they might see telangiectasis appear after the inflammation had healed, and after an apparently good result a new reddish scar would form and another nævus return. They had had a very instructive case of chronic radium dermatitis. It was that of a nurse who had had two of her fingers affected in exactly the same way as in the dermatitis following the X-rays. He had not tried radium upon tinea, the method of Sabouraud being so satisfactory. In treating hypertrichosis it was necessary to have thick screens and rays with a deep power of penetration. This procedure never produced the least inflammation. In conclusion Dr. Wickham expressed his thanks for the reception which he had been accorded.

A paper "On the Treatment of Nævus by Radium" (from notes of twenty-four cases), by Dr. H. Lewis Jones, who was unfortunately unable to be present, was then read by Dr. Sequeira. The following is an abstract:

The fact that vascular nævi are favourably influenced by the radiations of radium is now well known, and cases of the successful use of radium in this condition have been recorded by numerous writers. Something still remains to be learnt of the details of the procedure to be adopted in the employment of radium in these cases, and the following observations are based upon the treatment of twenty-four cases in the Electrical Department of St. Bartholomew's Hospital.

The specimen of radium used consists of 15 mgrm. of radium bromide, with a radio-activity of 500,000, enclosed in an aluminium capsule or button 1 cm. in diameter, giving off a uniform radiation from the whole front surface of the button in any position.

The application to a nævus is made by fixing the button on the part with a layer of thin gutta-percha tissue interposed. The time of the application was generally for one hour. In order to simplify matters the nævi selected for treatment were small ones of about the same size as the radium button, so that the whole area of the nævus might receive identical treatment. All were actively growing florid nævi in young babies, and all underwent retrogressive changes after the first application of the radium.

The general behaviour of a nævus after an application is that a reaction begins in the course of about five days. This reaction shows itself first by an increased redness of the surface, followed very soon by a gradual flattening of the nævus if it has previously been raised; then the surface becomes less florid, a little desquamation or the formation of a thin dry scab takes place, and this falls off and reforms several times, while the nævus continues to become paler and of more indefinite outline. At last it fades away and the skin assumes a natural appearance, retaining for some time a faint pink image of the original nævus.

No formation of a sore or moist oozing surface has been observed, and the part seems to need no after-dressing. The whole process of evolution takes a month or six weeks, the latter stages being somewhat slow.

Of the total number of cases under review, twelve, or one half, were completed with a single application. Six required a second application; four are not yet completed, but are markedly altered for the better; and two were treated with a very low-grade sample of radium for periods of two and four hours without any marked result so far.

Two of the cases had a pair of nævi close together. Case 10 had two nævi of the shoulder, each about a centimetre in diameter, florid and raised. One was treated on May 4th, and on May 20th this was faded and flattened while its neighbour was still active. The second one, treated on May 20th, was also in a state of marked retrogression on June 4th. Case 21 was similar except that the nævi were near the edge of the anterior fontanelle. One was treated on June 22nd and the other on July 6th. Both are now almost obliterated.

On Thursday, July 29th, the ordinary meeting was preceded by the demonstration of a number of rare and interesting cases of skin-diseases.

The PRESIDENT (Dr. CALWELL) showed (1) A well-marked case of *Adenoma sebaceum*, with sections showing the characteristic microscopical appearances.

(2) A case of *Pityriasis rubra pilaris* in an early stage; there was some difficulty in the diagnosis of this case owing to the presence of grouped comedones on the chest and abdomen, which were, however, thought to be independent of the other lesions.

(3) A water-colour drawing of a case of *Erythrodermia with lymphocytosis*, which ultimately developed into Pityriasis rubra.

Dr. Campbell Rankin: (1) *Xeroderma pigmentosum*; (2) *Epithelioma of wrist and senile keratosis of face*; (3) *Lupus vulgaris*, showing the result of a plastic operation on the nose.

Dr. StGeorge and Dr. Moncrieff Melville: Case of *Acanthosis nigricans*, with photographs and sections.

Dr. J. McLeish: A case of *Lupus vulgaris* of rapid growth and causing ectropion.

In addition to the above cases a large number of beautiful casts and photographs of skin-diseases were exhibited in the Pathological Museum of the College by Dr. Stopford Taylor and Dr. MacKenna.

Sir Malcolm Morris then opened a discussion on "Mucous Membrane Lesions in Cutaneous Disease."

He said that affections of the mucous membranes might be considered under the headings of (1) primary and (2) secondary. The latter group could be subdivided into (*a*) cases in which the mucous membranes were affected independently of the skin, (*b*) cases in which they were affected by extension from the skin. Having briefly referred to the specific fevers, in all of which the mucous membranes were involved, he enumerated the various drugs—arsenic, chloral, belladonna, mercury, salicylates, iodides, and others—in which lesions occurred on the mucous membranes. Among general infections syphilis imitated almost every form of disease, and characteristic lesions were found on the mucous surfaces in the primary and secondary stages of the disease. Leucoplakia was an independent disease and not necessarily syphilitic in origin. In Lupus vulgaris the starting-point was often inside the nose; in 70 to 80 per cent. of Finsen's cases the mucous membranes of the mouth or nose were affected. The application of adrenalin, as suggested by Dr. StClair Thomson, was an important aid to the diagnosis of lupus of the mucous membranes, causing the lupus nodules to stand out clearly. Lupus might extend up the lacrymal duct, the pharynx and larynx might be involved, and the tympanic membrane affected through the Eustachian tube. Lupus of the tongue was very rare. Sir Malcolm Morris had seen a case in which the vagina and os uteri were the sites of lupus. It was now thought probable that leprosy tended to show itself first in the nose and pharynx. He had recently had a case of early anæsthetic leprosy in which an ulcer was found in the left nostril, and bacteriological examination showed the presence of acid-fast bacilli in large numbers. Leprous nodules might form in the conjunctiva, or the tongue might be affected with lesions resembling syphilis. In regard to skin-diseases proper, the erythemata resulted from intestinal toxæmia. Erythema multiforme was often ushered in by congestion of the throat and pharynx. In urticaria, the eyelids, lips, mouth, tongue, glottis, and vulva were occasionally the sites of wheals. Urticaria might alternate or be concurrent with asthma. In Urticaria pigmentosa the mouth might be affected. Pemphigus often attacked the mouth or mucous membrane of the bronchial tubes, but Sir Malcolm Morris could not confirm the statement that Pemphigus vulgaris might begin in the mouth. In Pemphigus foliaceus, however, the mouth or labia majora or minora were often the first parts attacked. Dermatitis herpetiformis was sometimes accompanied by lesions in the mouth or vagina, and the speaker had published a case in which lesions first occurred on the tongue. In Epidermolysis bullosa bullæ might form on the mouth and lips, and in each of three children in a family observed by the speaker there were lesions in the mucous membrane of the mouth, whilst in one the intestinal tract was affected. Catarrhal herpes affected the lips, tongue and genital organs, and was often the result of external irritation. Herpes zoster sometimes attacked the eyeball, and vesicles were often seen on the tongue. Eczema rarely spread to mucous membrane, but the red part of the lips might be involved in seborrhœic eczema and become covered with crusts. Lupus erythematosus inside the lips and cheeks often resembled leukoplakia. The mucous-membrane lesions of Lichen planus might precede the skin-eruption, as in a case observed by the speaker in which such lesions occurred two years before the skin was affected. The disease occurred in the vulva in the form of milk-white patches on the inside of the labia. Wandering or geographical rash on the tongue was a harmless disease, and had never been seen by the speaker in association with any disease of the skin. As regards psoriasis, Sir Malcolm Morris could not confirm Fordyce's experience that it might affect mucous membranes. In Tinea circinata and in a few cases of scleroderma the disease had been known to spread to mucous surfaces. Rhinoscleroma also spreads to the mucous membrane of the nose. Acanthosis nigricans was another rare disease in which the mucous membrane of the mouth and vagina might be attacked. Sir Malcolm

Morris briefly referred to the treatment of affections of mucous membranes; it should be directed to the disease of which the mucous membrane lesions formed a part. Strong caustics should be avoided, and a weak chromic acid solution (5 per cent.) was often beneficial.

DISCUSSION.

Dr. LOUIS WICKHAM said that the relation of lesions of the mucous membrane to skin-diseases was a very important one. In syphilis, to take only one example, both in diagnosis and treatment, it was necessary to bear in mind this relationship. He had had a case of polymorphous erythema under his care in which lesions in the mouth had exactly the aspect of those of syphilis.

Professor WILD said that the point of greatest importance in Sir Malcolm Morris's paper was the need of looking for lesions of the mucous membrane in all cases of skin-disease. Lesions of the mucous membrane and skin together might frequently be associated with certain general diseases—such as purpura with hæmorrhage from both skin and mucous membrane, and measles with diarrhœa and bronchitis, as well as nasal catarrh and skin-eruptions. Everyone knew how frequently leucoplakia was mistaken for Lichen planus. It was difficult to diagnose from the appearance of the mucous membrane alone, and he believed that several cases which were stated to be leucoplakia were in reality cases of Lichen planus in which the mucous membrane alone was affected.

Dr. SEQUEIRA said that he had seen a very large number of cases at the Finsen Light Department of the London Hospital, and had been impressed with the importance of early diagnosis of lupus of the nose. He was continually meeting cases in which the earliest symptom of lupus of the nose was epiphora, which began probably by local infection in the inferior meatus, with consequent obstruction of the nasal portion of the lacrymal duct. He wished, therefore, to lay stress upon epiphora as one of the earliest symptoms of lupus of the nose. With regard to the frequency of lupus of the mucous membrane, out of nearly a thousand lupus cases at the London Hospital about half had lesions in which the mucous membrane was involved, and Dr. Thomas Smith found that out of about sixty cases of Lupus erythematosus, 28 per cent. had mucous membrane lesions of the kind that Sir Malcolm Morris had described. Lesions of the nasal mucous membrane were common in workers in arsenical dyes.

Mr. C. M. CUNNINGHAM said that in the practice of dental surgery they were almost compelled to use arsenic, but they used it with great caution, because it acted in such a highly destructive way. In using arsenic they were careful to employ a varnished dressing of some kind, but within a couple of days, if left alone, the arsenic would penetrate through this dressing and affect the tongue, cheek or pharynx, causing difficulties in swallowing. He would be glad if the use of arsenic in the mouth could be abolished, but at present this seemed hardly possible.

Dr. J. G. TOMKINSON said that many observers described a non-specific as well as a specific form of leucoplakia. Others inclined to the view that it was always a manifestation of syphilis. He believed he was correct in saying that Fournier stated that at least 80 per cent. of cases of leucoplakia were undoubtedly due to syphilis. Doubtless the remaining 20 per cent. were of identical origin, some of them occurring in patients who were reluctant to admit that they had had syphilis, while others might be regarded as a heritage from parental delinquency. The amenability of tuberculous lesions of the mucous membranes to radiotherapy appeared to vary somewhat with the region affected. He found the nasal mucous membrane much more responsive than the buccal to X-ray therapy. In the latter he found that daily applications of lactic acid were of distinct value.

Mr. Cunningham, replying to Sir Malcolm Morris, said that doubtless many plates had in the past been made with inferior rubbers, and the colouring matter introduced was sometimes of poor quality. In most cases metallic plates could be used. With regard to the use of arsenic they had tried to get a substitute, but up to the present it seemed almost impracticable.

Dr. S. E. Dore referred to some general considerations arising from Sir Malcolm's paper. It was worth while to examine the mucous membranes in all cases of skin-diseases. Important symptoms had escaped notice for many years because they had not been specially looked for. It would be mutually advantageous to confer with other sections, such as the Laryngological Section, from time to time. It seemed possible that Lichen planus, for instance, might affect the nasal mucous membrane, but might not have been seen by dermatologists or associated with a skin-disease by rhinologists. Again, it was conceivable that the gastric intestinal mucous membranes might be the site of Lichen planus lesions similar to those occurring in the mouth. Dr. Osler's group of cases in which erythemata occurred concurrently with certain visceral phenomena showed the importance of the association between cutaneous and internal affections.

The President said that after what had been said by Sir Malcolm Morris and others, it seemed that the relation of dermatological phenomena to certain general diseases was very close indeed. In some of the cases of lesions of the mucous membrane the anatomy of the part affected made the treatment difficult, and at times an otherwise trifling affection of the mucous membrane would give rise to considerable anxiety.

Sir Malcolm Morris, in reply, said that he was secretary of the first Dermatological Section of the British Medical Association, which met in Ireland—at Cork—thirty years ago. If his paper had impressed upon practitioners the need for examining the mucous membranes, it would be the means of saving them from frequent mistakes. He was glad to hear a dentist take part in the discussion. The rough edge of a tooth would start leucoplakia, which might end in epithelioma. The irritation from a plate was sometimes of considerable importance. The arsenic used in dentistry might also be a source of irritation.

Dr. Wild then read a paper on a "Case of Acanthosis nigricans" under his care. The patient was a man, aged 39 years, and had been exposed to great heat in his occupation of sugar-boiler. The first thing noticed was a lump in his neck above the left clavicle in February, 1908. This was removed in May, 1908, at the Bradford Infirmary, and reported to be malignant. At the time of the operation a deep pigmentation of the axillæ was observed, and the patient subsequently noticed that his skin was rough and dark coloured in parts, and that a number of warts made their appearance on his face, lips, and other parts of the body.

On admission to the Skin Hospital it was found that the general colour of the skin was a peculiar greyish-brown tint. On the face were a large number of warts, varying in size from projections that were just visible, to flat, filiform growths 5 mm. in height and about the same in diameter. The eyelids were much thickened, the external meati of the ears were filled with warty growths, and the nose, lips, and mucous membrane of the cheeks presented the same warty appearance; the tongue was clean. The skin of the neck was of a dark brown colour, almost black in parts; the left side was the darker, and presented a livid red scar, surrounded by swellings which were apparently enlarged glands. The pigmented skin was firm to the touch, thickened, but not markedly indurated. The axillæ were deeply pigmented, and the skin of the body was sallow in tint, rather harsh to the touch, and dry. The groins presented a slight thickening of the skin and patches of brown pigmentation. The genitals were darkly pigmented, but both groins and genitals were less deep in colour, and less thickened than the neck and the axillæ. The knees, legs and feet were normal. The skin on the arms down to the wrists was normal in colour, but the hands and fingers presented a thickened papillomatous and pigmented skin. The pigmentation was most marked over the metacarpo-phalangeal joints and over the interphalangeal joints. The skin of the hands was not cracked or fissured, and the patient could use them without pain. Though dry as a rule, the affected skin sometimes sweated freely.

While in the hospital he had X-ray sittings three times a week, the scar and glands in the neck being exposed. Some diminution of size occurred. The skin of the neck exposed to the rays became of a coal black colour, but the texture remained unaltered.

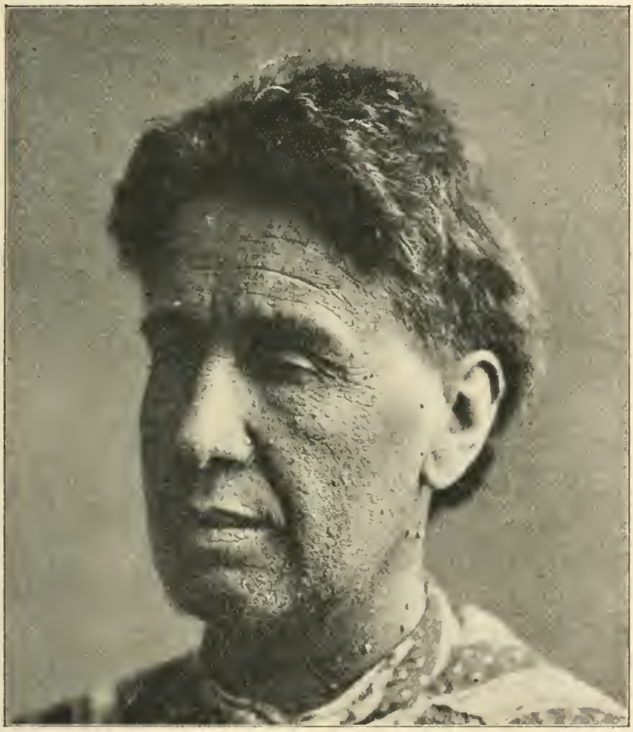
The patient gradually became weaker and his bronchitis worse, but there was no rise in temperature. The condition of the skin was unchanged when he left the hospital after twenty-eight days' stay to return home. No fresh symptoms occurred, but he lost strength and died apparently from the bronchitis a few weeks afterwards. No post-mortem examination was allowed.

Sections of the glands removed at the operation in May, 1908, on microscopical examination showed infiltration by a carcinomatous growth of a glandular type. While in hospital, permission was obtained to remove a wart from the left ear, which caused some irritation, and the microscopical appearances of the serial sections agreed with those described in other cases, namely, great increase in the horny and prickle-cell layers of the skin. The wart was not on a deeply pigmented part.

The points of interest in this case were: (1) The association of the skin changes with the carcinoma of the left supra-clavicular glands and the prior appearance of the latter; (2) the condition of the blood. At first sight any observer would have called the patient anæmic, save for the redness of the lips and the mucous membranes. Closer examination of the skin showed this appearance of anæmia to be due to the obscuration of the superficial blood-vessels by the opacity of the thickened skin. The blood-count showed only slight anæmia, and beyond the deficiency of red corpuscles the blood was practically normal within a few weeks of death. There was no marked leucocytosis. (3) The predominance of the lesions on the upper half of the body and hands and the freedom from any sign of disease on the feet and legs below the thighs. In Janowsky's case exposure to great heat is mentioned as the apparent cause, and it is interesting to note that in his work as a sugar-boiler the patient was continually exposed to heat, and the hands and upper part of the body much more so than the lower part.

Notes of a "Case of Acanthosis nigricans" were then read, the patient having been shown earlier in the meeting by Dr. G. StGeorge and Dr. G. M. Melville.

A woman, aged 42 years, was admitted to Thompson Memorial Home for Incurables at Lisburn on January 12th, 1906. The disease commenced with symptoms of dyspepsia about one year and eight months before her admission, and when the pigmentation of the skin appeared it was supposed to be Addison's disease. A marked feature was the extraordinary colour of the skin, especially of the face, which was that of a middle-aged man. The lines and folds of skin were accentuated and showed marked black pigmentation, otherwise the colouring was of a deep copper hue, differing from the browning of Addison's disease. The warty condition was well marked on the face and scalp. The tongue showed deep fissures and the chest great blackening, especially under the breasts. In the right axilla there was a large fungating mass which exuded a fœtid, straw-coloured fluid. The bend of the elbows showed a dark brown colour, dry and scaly to the touch, like potters' clay; there were also warts on the hands, wrists, and fingers. To the touch the skin had a peculiar velvety feel, like a plush cushion.



Dr. StGeorge's and Dr. Melville's case of Acanthosis nigricans. (Reproduced with the kind permission of the *British Medical Journal*.)

On the lower extremities the pigmentation was not so well marked, but there were examples of dark pigmentation and of pseudo-condylomata in the natal and gluteal folds. There was no trace of abdominal cancer to be made out.

On examination of the blood it was found to contain the ordinary cells, there being no eosinophilia; a differential blood-count showed some increase in the small lymphocytes and a corresponding decrease in the polymorphonuclear cells. In sections of the skin the corium was thickened and the venous radicles dilated with a distinct small-celled infiltration. The subcutaneous tissue was normal, except for some greatly dilated vessels. The horny layer showed increase in size and in parts was partially detached, otherwise there was nothing to note in the epidermis. No black pigment was observed, but in the protoplasm some brown granules were seen, which were believed to be hæmatoidin crystals. After testing carefully with potassium ferro-cyanide a deposit of blue was given, but this was by no means constant. Some small black granules were also seen, which were opaque, angular, and irregular in form.

There was some very slight hypertrophy of the prickle-layer, and the cells nearest the stratum granulosum were to a slight degree the seat of a small deposit of brownish pigment. Undoubtedly the granular layer showed the greatest pigmentation. The papillæ were relatively enlarged and the corium showed some dilatation of the lymph-spaces, but no enlargement. On staining the pigment with potassium ferro-cyanide the potassium blue reaction was negative.

In a paper on "The Ætiology and Treatment of Pruritus Ani," Dr. J. Goodwin Tomkinson said that while the ætiological factor in pruritus ani is often a local one, its causation is not infrequently to be found in some functional or organic defect in the complex processes of general metabolism.

Its cause, however, is not always discoverable, even after the most careful and thorough examination. The affection is common to both sexes and at all periods of life. In children a frequent cause is the presence of intestinal worms; in women pregnancy or some morbid state of the reproductive system may be the causative factor; while in the aged it may be due to the degenerative cutaneous changes peculiar to that period of life.

A strict inquiry into the occupation, habits, and diet should be made, and in no instance should urinary examination be omitted. In the presence of hæmorrhoids, anal fissure, pediculi, and other local causes, appropriate treatment should, of course, be adopted. Max Joseph lays special stress upon the regulation of the bowels in all cases, and recommends the application of a lotion of perchloride of mercury (1 in 1000) after each defæcation. In all cases the parts should be kept scrupulously clean. The application of water as hot as can be borne often affords temporary relief. This should be followed by the application of a lotion of tar and lead, carbolic acid, or corrosive sublimate of suitable strength, and the subsequent smearing of the parts, after careful drying, with a cocaine ointment, or still better, in those cases where the itching extends into the rectum, with the introduction of a cocaine suppository. Marked relief often follows the exhibition of mercurial ointments. Unfortunately there are many rebellious cases where the preceding remedies are but of the most temporary benefit. In these intractable cases the actual cautery or linear scarification have been employed. Such drastic measures, however, are much less frequently indicated since the introduction of radio-therapy and treatment by the high-frequency current. Static electricity also has its advocates, and the continuous current (the + pole applied to the affected area) is also recommended.

The writer had good results from the high-frequency current in a rebellious case of two years' duration.

The subject was discussed by Dr. Howard Humphris, Dr. J. Metcalfe, and Dr. W. A. Loxton, and Dr. Tomkinson replied.

CURRENT LITERATURE.

ERYTHEMA NODOSUM AND TUBERCULOSIS. A. B. Marfan. (*La Presse Médicale*, June 26th, 1909, p. 457.)

Cases of Erythema nodosum occurring in tuberculous subjects or followed by tuberculosis have been reported from time to time, but this association has generally been regarded as accidental. Some years ago, however, it was suggested by Landouzy that in certain cases Erythema nodosum might be a tuberculous manifestation, and more recently he has given stronger expression to this view. Since the introduction of the Calmette and Pirquet tests for tuberculosis interest has been revived in this question in France. Lévy-Franckel has reported five cases of Erythema nodosum in each of which there was a positive reaction to Calmette's test. Chauffard and Troisier have published a case of a young girl, who had an old tubercular sclerosis at the apex of the right lung, who was attacked with Erythema nodosum, and in whom they not only obtained a positive reaction, but, with the intra-dermic method of Maritaux, also produced lesions at the seats of the injections, which they describe as identical in character and in evolution with the lesions of Erythema nodosum. Marfan, in six cases of Erythema nodosum, obtained positive reactions by a method of slight scarification and rubbing in of tuberculin. In two of these cases there were evidences of tuberculosis. One had signs of tuberculosis at the apex of one lung. The other, a boy, aged 7 years, reacted to the tuberculin test while the eruption was out; two weeks later he developed measles, followed by nephritis, which cleared up in three weeks, when he again gave a positive reaction; three months later he had haemoptysis and was found to have signs of tuberculosis in the lung, and again reacted positively. In one case Marfan repeated the experiment of Chauffard and Troisier, and produced by intra-dermic injections lesions at the point of injection which closely resembled those of the Erythema nodosum itself. Thibierge and Gastinel have criticised the results of these experimental productions of nodose lesions: they having been able to reproduce in patients suffering with Erythema multiforme lesions identical with those of the rash itself by injection of tuberculin, anti-diphtheritic serum, anti-tetanic serum, or even of saline solution. In answer to Thibierge and Gastinel's criticism Barbier and Lian have published the following case: A girl, aged 14 years, with a slight degree of tuberculous induration at the right apex and Erythema nodosum. Intra-dermic injections of one drop of a 1 in 5000 dilution of tuberculin were made into the arm, the leg, and the abdomen, and simultaneously injections into the same parts of anti-diphtheritic serum and of anti-meningococcic serum. In all three points the tuberculin gave positive reactions, the lesion produced on the leg being exactly like that of Erythema nodosum, although the original rash had then faded. None of the spots injected with the other serum showed any sign of reaction. They conclude that although it may be possible to reproduce locally the lesions of Erythema multiforme by injections of various serums, in the case of Erythema nodosum this can only be done by intra-dermic injection of tuberculin and not by other serums.

Marfan also mentions a case of Hildebrandt in which 5 c.c. of blood from the vein of a patient with Erythema nodosum produced tuberculosis in two guinea-pigs, into whose peritoneal sacs it had been introduced; and he recalls three cases of his own of Erythema nodosum followed by tuberculous pleurisy, by white swelling of the knee, and by tuberculous meningitis. At the time he regarded these associations as mere coincidences, but the recent work with tuberculin cuti-reactions inclines him to the view that without going so far as to affirm that it always arises from an evident or a latent tuberculosis, Erythema nodosum is most often the result of this bacillary infection.

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H. G. A.

ON IMPETIGINOUS NEPHRITIS. M. L. DUVERNAY (Aix-les-Bains). (*Lyon Médical*, April 25th, 1909, p. 849.)

DUVERNAY records three cases of acute nephritis associated with Impetigo contagiosa. The patients were children of from five to seven years of age, previously in good health, and without antecedent history of scarlet fever, influenza, or exposure to cold. More or less extensive impetigo of the face and scalp had been present for some days or weeks, when a generalised œdema—face, limbs, and trunk—appeared almost suddenly, together with spasmodic dyspnœa and scanty urine containing much albumen. In two cases all symptoms rapidly disappeared with the cure of the impetigo, the child being completely recovered within a few weeks. In the third case the patient died, with symptoms of cerebral uræmia, a few days after the onset of the illness.

Duvernay states that this association of acute nephritis with Impetigo contagiosa is not noted in any of the text-books, ancient or modern, but he gives references to thirty cases in French medical literature. A paper by Guinon and Pater ("Complications rénales au cours de l'impetigo," *Revue Mensuelle des Maladies de l'Enfance*, 1906) deals fully with this subject, as also do Villatte (*Thèse Bordeaux*, 1907) and Guiart (*Thèse de Paris*, 1908).

Duvernay is of opinion that the nephritis in these cases is of toxi-infectious origin, and inclines to the view that the toxins of the secondary staphylococcic infection are responsible rather than those of the primary streptococcic invasion. He would account for this occasional production of nephritis by supposing a greater virulence of the micro-organism, and perhaps a diminished renal resistance. He mentions, apart from these grave cases of nephritis, simple albuminuria as a symptom seldom looked for, though sometimes found, in the course of an eruption of Impetigo contagiosa.

H. G. A.

A COMPARISON BETWEEN THE DIFFERENT METHODS OF THE SERO-DIAGNOSIS OF SYPHILIS, WITH CERTAIN REFLECTIONS. A. PASINI. (*L'Ospedale Maggiore*, No. 5, 1909.)

THIS is a very scientific and useful and laborious piece of work. In a series of no less than a hundred cases, some of undoubted syphilis at varying intervals after infection, some ambiguous cases, some suffering from other diseases and some perfectly healthy, he has examined the complement fixation power both of the blood and the urine by methods which have been described by different observers since Wassermann wrote his classical papers. In each case he has tested the complement fixation power of the blood, using as his antigen not only the watery extract of syphilitic liver as recommended by Wassermann originally, but also employing an alcoholic extract of guinea-pig's heart, a 1 per cent. suspension of lecithin and a 1 per cent. suspension of sodium oleate. Further, he has examined the complement fixation power of the urine, using as antigen both liver extract and heart extract, and has also examined the blood by the methods of Porges, of Klausner, and of Fornet. Thus in each case he has made no less than nine different determinations. To describe shortly the principles of Porges, of Klausner, and of Fornet, which may perhaps not be familiar to all: Porges' reaction depends on the fact that if a suspension of lecithin (1 per cent.) be added to an equal quantity of syphilitic serum and kept at a temperature of 37° C. for five hours a precipitate is formed. Normal sera require a much longer time for the formation of a precipitate. The method of Klausner consists simply of placing in a narrow tube 0·2 c.cm. of serum and 0·7 cm. distilled water. After standing for fifteen hours in the case of syphilitic sera a precipitate is formed; with normal sera about thirty-four hours are required. Fornet's reaction depends on the formation of a precipitate when the serum from an old case of syphilis is added to the serum of a recent case of syphilis. As the result of his work Pasini finds that the original method of Wassermann is reliable whether performed with the watery extract of liver or with the alcoholic heart extract, but is not so satisfactory when the suspension of lecithin or oleate of soda is used. Determinations with the urine are valueless; 80 per cent. of them are positive whether the patient be syphilitic or not. The methods of Porges, Klausner, and Fornet were also found to be unsatisfactory. There is also a postscript to this paper to the effect that Pasini has tested the reaction of Schürmann against the original Wassermann, and finds that this, too, cannot be relied upon. It may be remembered that the method of Schürmann depends on the formation of a yellow coloration on the addition of hydrogen peroxide and a very dilute solution of ferric perchloride in phenol to the suspected serum. This is understood to depend on the presence of a substance allied to lactic acid in syphilitic sera. In Pasini's hands this test frequently gives results at variance with both the clinical appearances and the original Wassermann reaction.

H. D.

IDIOPATHIC ATROPHY OF THE SKIN. MALINOWSKI. (*Ann. de Derm. et de Syph.*, October, 1908, p. 562.)

THIS is a very obscure and ill-understood condition, and the cases recorded are all foreign. Malinowski claims to have seen five, of which detailed descriptions are given, including histological observations in three out of the five. In one only was there a definite association with sclerodermia; in two there was no preceding inflammation of the skin, which appears the commoner preliminary. Desquamation was present in one case—a feature which suggests its analogy with the disease named by Jadassohn "Atrophodermie erythematosa." A clinically useful division is then suggested of cases into two groups, those with and those without inflammatory precursors. Histologically all the cases examined suggested an infiltration with small cells along the vessels, and thinning of the epidermis with cicatrisation was common to all; the papillary body seemed the earliest site to be affected. In the atrophied areas elastic tissue and the follicles and glands of the skin were all destroyed, and later, the unstriped muscles. The infiltration was largely composed of plasma-cells. The cause would appear to be vasomotor disturbance, possibly engendered by psychical factors, and the disease is incurable.

E. G. L.

SEPTICÆMIA FROM BACILLUS PYOCYANEUS, AND CHRONIC TRUE BULLOUS PEMPHIGUS. PETGES and BICHELONNE. (*Ann. de Derm. et de Syph.*, July, 1908, p. 417.)

THE pathogenicity of *Bacillus pyocyaneus* in certain cases is becoming more and more established; it is well known that this bacillus may cause a general septicæmia with bullous cutaneous lesions, and that it is found in certain local ulcerations, like ecthyma, without the general health being affected.

The case here reported was clinically a complete picture of chronic pemphigus. It was thus diagnosed by Prof. Dubreuilh, and treated in hospital with arsenic and local sterilised dressings. Eight weeks after admission a specimen of urine was obtained with blue coloration, which suggested infection by *pyocyaneus*, a suggestion further corroborated by the presence of abscesses with blue pus. Blood was then withdrawn from a vein and a culture of pure *pyocyaneus* obtained from it. *Pyocyaneus* and *Staphylococcus aureus* were obtained from a culture of blood drawn by pricking the skin. Later the clinical features were those of Pemphigus foliaceus, without vegetations or mucous membrane lesions. Nikolski's sign was readily obtained. The patient finally died nine months after admission. Blood taken by aseptic puncture from the heart, post-mortem, likewise gave pure culture of *pyocyaneus*.

An interesting pendant to this case is found in the report of a surgical experience (*Brit. Med. Journ.*, May 15th, 1909), in which a septicæmia which developed after an operation undertaken for fixation of the hip in a boy, aged 10 years, was proved to be due to absorption of *pyocyaneus*, and complete cure resulted by the injection of vaccines prepared from his pus.

E. G. L.

ON THE USE OF POWDERED METALLIC ZINC IN THE TREATMENT OF ULCERATIONS OF THE GENITALS. Kopytowsky. (*Ann. de Derm. et de Syph.*, July, 1908, p. 412.)

Iodoform is much resented, by private patients particularly, on account of its smell; and Kopytowski claims to obtain better results in venereal soft chancres and ulcers with finely powdered metallic zinc, the action of which he regards as being due to feeble quantities of chloride and lactate of zinc being formed in a nascent condition by contact of the metal with the tissues. The surface to be treated is to be carefully cleaned and dried before putting on the zinc powder, which is dusted over the part and covered with dry cotton-wool.

E. G. L.

CONTRIBUTION TO THE STUDY OF PELLAGRA AND ITS COMPLEX OF SYMPTOMS. Nicolas and Jambon. (*Ann. de Derm. et de Syph.*, July, 1908, p. 385, August–September, p. 480.)

These authors were able to observe seven cases of this disease in Lyons, and the paper is a careful record of these. A detailed historical summary of the question precedes the personal contribution to the study of the disease. The increasing number of sporadic cases in which rye—the consumption of which for so long has been supposed to be the specific cause of the malady—has been totally absent from the dietary, has led to considerable doubt being expressed as to the correctness of that theory. The French school are more and more inclined to regard the disease as the result of many circumstances, of which poverty and alcoholism are amongst the most constant. The three cardinal sets of symptoms are cutaneous erythemata and fissuring or ulceration of mucous surfaces; digestive disturbances, anorexia, diarrhœa, pyrosis, vomiting; and nervous disturbances, asthenia, vertigo, intellectual enfeeblement, melancholia. All the cases observed by the authors were exempt from rye in their diet, but all were enfeebled by alcoholic excesses and by extreme poverty and malnutrition. Alcoholism, defective nutrition and nervous worry seem the most probable combination of causes. The frequency with which pellagra occurs in insane asylums has led to a special classification of such cases, but probably the defective nutrition and the melancholy surroundings of such institutions explain sufficiently this incidence. With regard to the part played by rye, and the moulds which grow upon it, so long accepted as the specific cause, much evidence is adduced for denying specificity, and probably the insufficiency of a diet which is confined to rye, as well as the monotonous and miserable environment of the peasanty in districts where poverty restricts the diet to this one product, play the important parts. The *rôle* of the moulds—aspergilli—which grown on rye and on other cereals, would appear to be much less definitely causative of this disease than is usually taught, and it may even be doubted whether they have any specific action.

E. G. L.

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A CASE OF ATYPICAL MYELOID LEUKÆMIA WITH NODULAR INFILTRATION OF THE SKIN.*

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AND

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The patient, R. C—, a widow, aged 58 years, came to the Skin-Department of St. George's Hospital on March 17th, 1909, complaining of "lumps in the skin," which she had first noticed two months previously. She stated that for several months before this she had noticed pains in her bones from time to time, particularly the breast bone, and also in the small of her back and ribs. Otherwise she had not had any illness which appeared to bear on her present condition.

The nodules first appeared on the lower part of the abdomen, and rapidly spread over the front of the body. Each individual nodule was at first small, about the size of a pea, and grew in the course of a few days to the size of a large raisin. When the nodules first appeared they were much darker than at present, in fact, almost black; they did not cause any itching or pain. She was fairly well in herself, only rather weak. She had lost about a stone in weight in the last two months.

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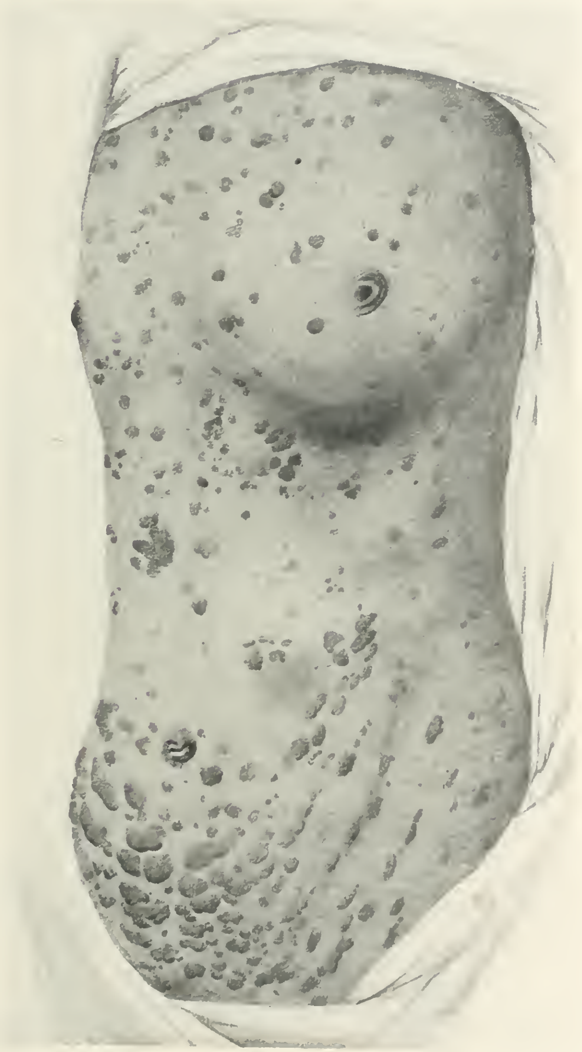
* A drawing of the case was shown at the Dermatological Section of the Royal Society of Medicine on June 17th, 1909 (*vide Brit. Journ. Derm.*, London, 1909, vol. xxi, p. 259).

On examination the patient was seen to be a very pale, rather shrunken woman, the skin having a transparent look, but not lemon-coloured. The nodules were of a grey-slate colour for the most part, but some of the larger ones were plum-coloured, not unlike in shape, colour, and size a half damson. The skin over them was shiny, smooth, free from scales, and not umbilicated. They were oval in shape, the long axis of the ovoid tending to run obliquely across the body, especially in the lower part of the abdomen. The distribution was roughly symmetrical. They were firm to touch, very superficial, in the true skin rather than in the subcutaneous tissue; some of them were a little tender.

The nodules, as will be noted in the photograph (Plate), were distributed thickly over the front of the trunk; above the pubes, and to a less extent at the top of the sternum (not shown in the photograph); they were so near together as to be confluent in places. There were very few on the back, one or two groups on the internal surface of both thighs, and some isolated nodules on the calves and upper arms. There were none on the head and neck, or on the mucous membranes as far as could be seen. Enlarged glands could be felt in the axillæ and groins; they were soft and freely movable. The spleen was shown to be enlarged on percussion, dulness extending upwards to the eighth rib in the anterior axillary line, but on admission to the hospital it could not be felt below the costal margin. A few days afterwards, however, it could be detected on deep inspiration, and steadily increased in size. There was nothing else abnormal detected in either the abdominal or thoracic organs. The teeth showed several carious stumps, but there was no marked degree of pyorrhœa and no stomatitis.

The general aspect of the case suggested the provisional diagnosis of multiple pigmented sarcoma, but the possibility of leukæmia was raised before the result of a biopsy established the presence of leukæmia. The biopsy was kindly carried out by Mr. Fraukau, who removed a nodule from the abdominal wall under a local anæsthetic. He found considerable difficulty in stopping the bleeding from the small wound, which continued to ooze for several hours. It is remarkable that neither before nor during the subsequent course of the disease was there any sign of spontaneous hæmorrhage. The photomicrographs shown were taken from slides prepared from the biopsy.



Photograph from a water-colour drawing of the trunk of a patient with leukæmic nodular infiltration of the skin.

TO ILLUSTRATE THE PAPER ON ATYPICAL MYELOID LEUKÆMIA WITH NODULAR INFILTRATION OF SKIN (H. D. ROLLESTON AND WILFRID FOX).

On March 24th a blood-count was made and showed the following: Red cells, 2,035,000; hæmoglobin, 40 per cent.; white cells, 730,000. A differential leucocyte count showed: Polymorphonuclears, 50 per cent.; lymphocytes, 35 per cent. (31 per cent. large and 4 per cent. small); eosinophiles, 2 per cent.; myelocytes, 10 per cent.; eosinophile myelocytes, 3 per cent.; mast-cells, 0·3 per cent. There were two normoblasts and one megaloblast with a mitotic nucleus in 100 white cells counted. For these and the subsequent blood-counts we are indebted to the Director of the Clinical Laboratory, Dr. C. Slater, and to Mr. H. W. Bayly.

Ophthalmoscopically there was slight cupping of the discs but no hæmorrhages. For the first few days after admission the patient felt rather worse, complaining of pain in the back, mostly at nights. On April 5th she did not feel so well as on admission, the appetite was poor, and she had considerable pain in the stomach, probably due to constipation, which required energetic treatment. The spleen was larger than on admission and could be felt below the costal margin. The skin-lesions were practically unchanged, if anything a little paler. On April 16th there was improvement in the general condition and in the blood-count, which was as follows: Red cells, 2,540,000; white cells, 33,640. Differential leucocyte-count: Polymorphonuclears, 70 per cent.; lymphocytes, 18 per cent.; transitionals, 1 per cent.; eosinophiles, 3 per cent.; myelocytes, 8 per cent.; mast-cells, *nil.* Three normoblasts were seen in a count of 100 white cells. Many megaloblasts were seen, and considerable polychromatophilia was noted. This improvement appeared to be due to the action of naphthalene tetrachloride, which was started on April 5th; at any rate the improvement coincided with this treatment. There was no change in the skin condition; the pain in the back is still present at times.

On April 23rd the skin-lesions were flatter and paler on the abdomen, but one or two fresh ones have appeared on the legs and thighs, and some of the old ones in this region have increased a little in size. On April 28th the patient's general condition showed further improvement, the pains were better, she felt stronger and was eating better, but the blood-count did not bear this out, and an interesting change in the relative proportion of leucocytes had taken place, the number of lymphocytes being greatly increased, as follows: Red cells, 2,620,000; white cells, 410,000. Differential leucocyte-count: Polymorphonuclears, 48 per cent.; lymphocytes, 48 per cent. (44 per cent. large and 4 per cent. small); eosinophiles, 2 per cent.; mast-cells, 0·5 per cent.; myelocytes, 1·5 per cent. One normoblast was seen in a count of 100 white cells.

The patient was, however, sent to the Atkinson-Morley Convalescent Hospital at Wimbledon, where she remained until May 13th, when she was readmitted into the hospital. The improvement had not continued while at the convalescent hospital, the patient being rather worse in her general condition than when she went away. In addition there was a large sub-periosteal swelling on the right tibia occupying about two thirds of the anterior border; this did not appear to be hæmorrhagic, and was extremely tender to touch. The abdominal skin nodules were fainter in colour but there were many more out on the lower limbs, and those on the thighs had a definite greenish colour.

On May 14th a blood examination showed: Red cells, 2,445,000; white cells, 98,400. Differential leucocyte-count: Polymorphonuclears, 59 per cent.; lymphocytes, 24 per cent. (22 per cent. large and 2 per cent. small); mononuclears, 2 per cent.; transitionals, 5 per cent.; eosinophiles, 1 per cent.; myelocytes, 9 per cent.; mast-cells, *nil.* One normoblast was seen in a count of 100 white corpuscles.

The swelling on the right tibia gradually went down, and on May 20th it was no longer tender; it did not leave any bruising as it disappeared. On May 21st the patient said she felt better, and, at her own request, went to her own home in Pimlico, and could not be persuaded to return to the hospital again.

While she was in the hospital the temperature during the first week showed a slight regular evening elevation (100° F.), being normal in the morning. It then became rather more irregular, and on April 8th reached 101·5° F., which was the highest observed; from that date until she was discharged it was never above 100° F. The urine usually contained crystals of uric acid, and once a trace of albumin, but there was never any hæmaturia. Letters asking her to come up to the hospital for inspection not meeting with success, on August 17th one of us visited her in her home. She was feeling much better and going about a little, but quickly got tired and out of breath on any exertion. The skin-nodules on the trunk were unchanged, but a large one had appeared for the first time on the face, occupying the outer half of the right eyelid.

During September and October we again wrote three times making inquiries without getting any reply; at last we heard from a sister that the patient had died on October 3rd. One of us then visited the sister and obtained the following details: The patient remained fairly well until the end of August, but during the first week in September she suddenly became worse, refusing food and complaining of pain in the stomach, which was swollen. She became rapidly very weak, and the "pain and swelling increased in the stomach, being very bad just before she died." The skin-lesions did not change much during the last few weeks. No post-mortem examination was made.

TREATMENT: *Soamin.*—On March 23rd the patient was given injections of soamin 1 grain daily, but as it appeared to upset her digestion and cause nausea it was discontinued after a few days.

Naphthalene tetrachloride.—This drug was employed by Drysdale (7) in a case of comparatively acute myelogenous leukæmia with intestinal symptoms, and was followed by remarkably good results, the patient being apparently cured. Impressed with this success, which one of us had an opportunity of seeing, our patient was given naphthalene tetrachloride, at first in 10-grain doses twice a day, and subsequently in 8-grain doses six times daily. She certainly improved very greatly, but as she was for most of the time being treated by X-ray exposures it is impossible to estimate accurately the influence of this drug.

X-rays.—As just mentioned, the patient's improvement while undergoing a course of X-rays was most noticeable; not only did she feel better, but the cutaneous nodules receded and became smaller. Further, she relapsed when she went to the Convalescent Hospital at Wimbledon and when she left the hospital.

Discussion.

Various skin-lesions have been described in connection with leukæmia.

(1) Diffuse œdema-like infiltration, producing in the face, where it is most frequently seen, a leonine expression not unlike that of leprosy. The only sign in our case of this form was the nodule which appeared late in the disease on the right eyelid, and which, although less circumscribed than the other nodules, was hardly diffuse enough to be described as œdema; it was also the same colour as the other nodules. Galliard's (8) case was an example of this leonine infiltration.

(2) Large subcutaneous tumours varying in size from that of a pigeon's egg to that of a fist. Our case showed nothing of this kind. The only case in which ulceration of the growths has occurred is the remarkable example recorded by Sir T. Oliver (14), in which an egg-shaped tumour in the axilla was complicated by necrosis of skin, presumably due to traumatic and infective influences. In this case there were sixty hard tumours, varying in size from that of a bean to that of an egg, scattered over the trunk. The case was remarkable in following a crushing injury to a metacarpal bone, a sequence which naturally suggests a generalised sarcomatosis, but as the leucocytes were enormously increased in numbers it cannot be excluded from the category of leukæmic dermatoses (*leucémides,* Brocq [3]).

(3) Smaller nodules in the skin scattered about all over the body, arranged more or less symmetrically as in our case. The point in which our case appears to be unique is in colour; we have not been able to find any records of this peculiar grey or plum colour. They appeared more commonly to be either brown, yellow, or pink, as in Hochsinger's and Schiff's case (9), and in Phillipert's (15), which, in addition, showed leontiasis, referred to above. Umbilication and bullæ on the nodules have been observed by Lavenson (11), and scaliness by Biesiadecki (2), who in 1876 was the first to describe skin-lesions in leukæmia.

(4) Finally, there has in the past been a considerable amount of confusion, not only between leukæmia and lymphadenoma, but also between their cutaneous lesions. Probably this confusion accounts for the description of the following conditions as the manifestations of leukæmia, namely, prurigo-like papules, lichen-like papules, eczematous conditions, eruptions resembling pityriasis rubra, or general exfoliative dermatitis (Nicolau [13]), all of which are associated with intense pruritus. Although there is hardly sufficient evidence to deny the occurrence of these conditions in leukæmia as apart from lymphadenoma, our impression is that they belong to lymphadenoma and not to leukæmia. Kaposi's lymphodermia perniciosa appears to be generally regarded as allied to mycosis fungoides (5). At one period in the disease the possibility that the condition was chloroma was suggested to us by the green tinge manifested by the lesions on the thighs. It may also be noted that this explanation fitted in more or less with the blood-picture, namely,

increase of lymphocytes, and with the presence of a periosteal swelling, which are commonly seen in chloroma. This disease is very closely related to lymphatic leukæmia, though a few examples of myeloid chloroma have been reported, and is very rare; in 1904 Dock (6) accepted thirty-six cases, and since then Treadgold (17) has collected six more cases, making forty-two in all.

Histology.

The only material available was that taken at the biopsy. This was put through paraffin in the usual manner, cut and stained by the following methods: Borax methylene blue, Jenner's, Leishman's, Giemsa's, and Pappenheim's.

The epidermis was seen to be thin, but not unusually so for the part of the body from which the tissue came. There was some intracellular œdema in the prickle-cell layer due to pressure, otherwise there was nothing abnormal. There was no leucocytic infiltration between the epidermal cells.

The corium and upper part of the subcutaneous tissue showed between the collagen bundles a dense infiltration of cells, which appeared to be lymphocytes and polymorphonuclear leucocytes. The cells were so close together in places as to mask the fibrous tissue supporting them. Where they were not so numerous, near the edges of the infiltration, the cells were chiefly collected around the blood-vessels and lymphatics, and appeared to have exuded from the blood-vessels rather than to have been produced on the spot. Pincus (16), writing on the changes in the skin in leukæmia and pseudo-leukæmia, favours the view that the nodules are derived from the normal lymphatic tissues in the skin, and are not the result of exudation from the blood. He also is of the opinion that the tumour formations in leukæmia and in pseudo-leukæmia are indistinguishable; in our case the entire absence of the appearances, which have since been shown by Andrewes (1) to be characteristic of lymphadenoma, together with the clinical signs, eliminate that diagnosis.

The section stained by Pappenheim's method showed a complete absence of plasma-cells; this is opposed to Unna, who speaks of these nodules as a "special form of granuloma."

The section stained by borax methylene-blue showed a few mast-cells, which have also been noted in lymphadenoma by Dr. Graham Little (11).

It is very greatly to be regretted that we were unable to get a necropsy and so give a more complete account of the pathology of the case.

Remarks on the Form of Leukæmia in this Case.

As it is usually considered that cutaneous tumours in leukæmia are almost exclusively confined to the lymphocytic form, and as Cabot (4) states that their occurrence has not been recorded in myeloid leukæmia, it is important to call attention to the condition of the blood in this case. It was not a characteristic example of lymphoid leukæmia, for the highest lymphocyte-count was 48 per cent. in contrast to an average of 90 per cent. in typical cases. The highest percentage of myelocytes was 10 per cent. and the lowest 1·5 per cent., so that the case is certainly not characteristic of ordinary myeloid leukæmia. Muir (12) admits that in lymphoid leukæmia small numbers of myelocytes may appear in the blood as the result of nodules in the bone-marrow. But inasmuch as 90 per cent. of the lymphocytes were of the large form, and may be regarded as the non-granular precursors of the myelocytes (Muir), this case obviously belongs to the category of myeloid rather than of lymphocytic leukæmia. Cases with a blood-count resembling that in our case have been described as "mixed leukæmia," but as Cabot in a series of 140 cases of leukæmia did not find any example deserving this description in the strict sense of the term, and further, as it has in the past been applied to cases of ordinary myeloid leukæmia, it appears better to be content with calling the condition "atypical myeloid leukæmia." The relation of this case to chloroma has already been raised, but the discussion of this question is rendered almost futile by the absence of a necropsy. The only reason for thinking of this rare condition was the greenish tint of some of the cutaneous nodules and the presence of what appeared to be a subperiosteal growth; as far as we know, chloromatous invasion of the skin has not been reported.

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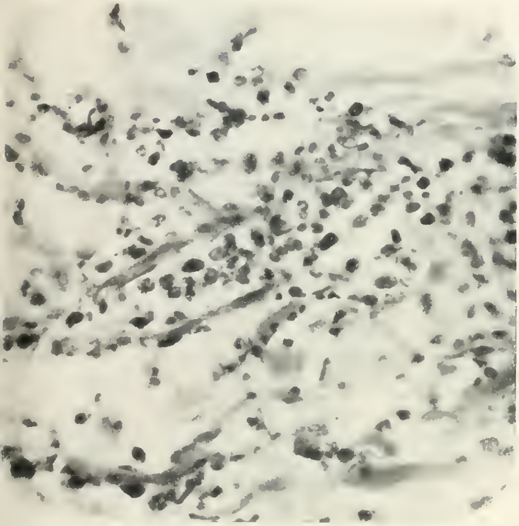

Photo-micrograph of leukæmic nodule in the skin. High power.

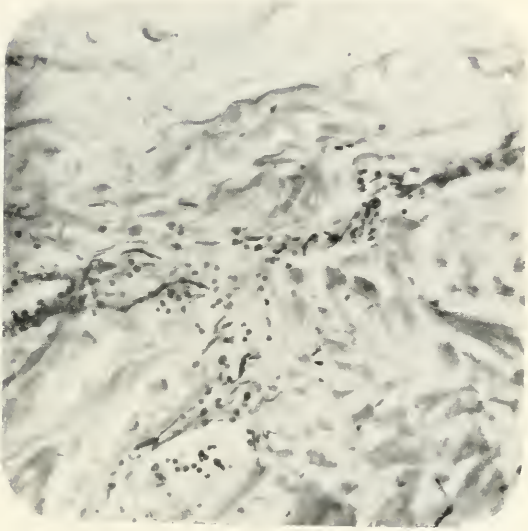

Photo-micrograph of skin at the margin of a leukæmic nodule; shows perivascular exudation of lymphocytic cells. High power.

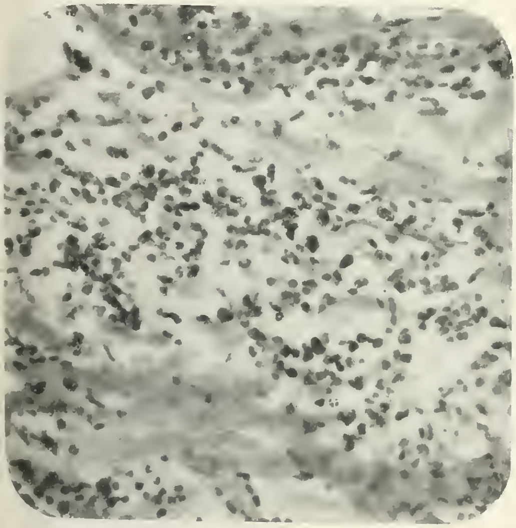

Photo-micrograph of leukæmic nodule in the skin. High power.

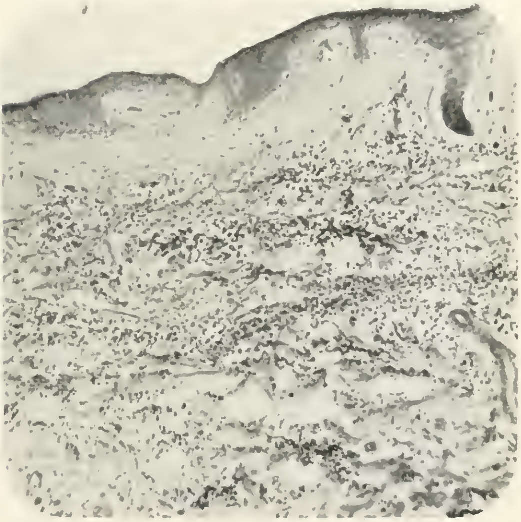

Photo-micrograph of leukæmic nodule in the skin. Low power.

TO ILLUSTRATE THE PAPER ON ATYPICAL MYELOID LEUKÆMIA WITH NODULAR INFILTRATION OF SKIN H. D. ROLLESTON AND WILFRID FOX.

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, November 18th, 1909, Dr. COLCOTT FOX, President, in the Chair.

Mr. G. W. DAWSON showed (1) a man, aged 58 years, suffering from *Dermatitis herpetiformis.* The eruption began last July, and when seen in October there were numerous cherry-sized bullæ at the base of the neck, upper part of chest, both arms, and one on each outer canthus of the eye. Some were single, others grouped; they came up very rapidly on an erythematous base and ran their course in a week. The itching was intense, but had of late improved. He got considerably better on Fowler's solution and inunctions of sulphur ointment, but had minor relapses, and a few days ago became as bad as ever. The contents of a small recent bulla were examined bacteriologically by Dr. Hare and smears made on agar-agar, when a pure culture of the bacillus shown under No. 1 microscope was found, and a sub-culture on blood-serum made from it which was shown under microscope

No. 2. The first was recognised as a degenerate form of diphtheria bacillus, the second was typical of that micro-organism.

Two guinea-pigs weighing 350 gr. each were inoculated, one with ·5 c.c. broth culture of the bacillus and the other with 1 c.c. Both died within twenty-eight hours. Two other guinea-pigs, but of much less size, were then each inoculated with 1 c.c. of the emulsion and 1 c.c. of antitoxin (diphtheria); they are both alive now. A section of a bulla was also made, which showed the entire epidermis lifted off the underlying cornium.

(2) A case of *pruritus*. The patient, G. S—, aged 65 years, a garden labourer, came under observation last June complaining of severe itching, which he said began the previous August. There was nothing to be seen beyond a few scratch-marks on the shoulders and therefore it was diagnosed as a case of pruritus or of urticaria, although there were no wheals to be seen. During last August the back and flanks assumed a slate-coloured discoloration, and there are now some patches on the chest and about the clavicles. Gradually the discoloration assumed its present hue, which might easily be mistaken for Tinea versicolor so much did it resemble that disease in colour and distribution. He also showed enlargement of the glands in the axilla, groins, and in the sterno-mastoid region. The urine was examined: Specific gravity 1010; no sugar or albumen.

A biopsy showed pigment in the basal layer of the epithelium and in the corium.

The exhibitor remarked that similar cases of pigmentation have been described as following urticaria.

Dr. T. D. SAVILL said he thought the pigmentation was started by phthiriasis. He had seen the condition occasionally in old people, and this man was aged sixty-eight years. Sometimes it extended to other parts of the body.

Dr. S. E. DORE showed a case of *hypertrophic Lichen planus* of two months' duration in a boy aged 10 years. The points of interest in the case were (1) the comparative rarity of the disease in childhood; (2) the well-marked implication of the tongue and buccal mucous membranes; (3) the annular formation of the lesions on the limbs; (4) the association of follicular keratosis with the lesions of Lichen planus.

Dr. GRAHAM LITTLE showed (1) a *case for diagnosis*. The patient was a man, aged 50 years; he had had the eruption for about three weeks, and was first seen on November 11th, when he had a number of lesions forming complete circles and imperfect segments of circles, the circles being of a diameter of about 2 inches in the smaller instances; in the largest, that on the right side between the iliac crest and the lowest rib fold, there was an imperfect segment with a diameter of about 8 inches. Other patches varied in area between these limits. The circles were formed by a periphery of continuous scales in some instances, the limiting edge being about ½ inch wide; in the largest plaque the periphery was composed of a broken series of smaller circinate lesions constituting the segment of a wide circle. The area of skin enclosed in the ring was quite normal; the edge of the figured patches was slightly scaly, and in some instances excoriated possibly by the finger-nails, although the patient did not appear to suffer from sensations of itching. There were in all about twenty such circles or segments of circles distributed on the limbs, the arms and legs fairly equally, but not symmetrically on both sides. On the scrotum and the pubic area there were some small scaly papules not arranged in ring form. The man gave a history of having contracted syphilis thirty years previously, but he had not had any recent symptoms, and a Wassermann-Fleming test proved negative. He gave and reiterated a positive statement that the lesions had all developed within the space of about nine days, and that he had been quite free from eruption previously. In the course of the time during which he had been under observation the lesions had certainly paled and become less scaly; no treatment had been adopted except a mild stomachic—"mist. alkalina" of the hospital pharmacopœia. Scales from the lesions had been examined for fungus, but with negative result. The patient had not taken any drug previously to the appearance of the eruption, and several lesions were situated out of the reach of his own hands, so that an artificial cause could not be accepted; moreover he had not ceased his occupation or in any way sought to create sympathy for his condition.

No definite diagnosis was offered of this anomalous case. The PRESIDENT suggested the possibility of *psoriasis*; other suggestions were a circinate erythema; tertiary syphilis, although there was no ulceration and the lesions were multiple and bilateral, and the history of rapid onset did not confirm this opinion.

(2) *A case of Lupus erythematosus* with symptoms of advancing disease which shadowed the possibility of the transformation of the

circumscribed type into that of acute disseminated Lupus erythematosus. The patient was a woman, aged about 40 years; the disease had commenced on the face last April and had rapidly spread, so that there were several patches on each cheek, the size of a shilling, of the circumscribed discoid type. The scalp was quite free. More recently she began to have small papular lesions on the hands and feet and on the forearm up to the level of the elbow. These papules in some instances looked like lesions of Lupus erythematosus, but in others there was umbilication, and in shape and size they strongly resembled the early lesions of Acne scrofulosorum or "folliclis." These lesions were about $\frac{3}{16}$ in. in diameter, a bright bluish-red, non-itchy, and fairly numerous, about thirty all told; the skin around them was rather congested, the circulation being poor in both extremities. No other lesions of tuberculosis were identified.

The PRESIDENT suggested the possibility of the more recent nodules being really "folliclis," and invited the exhibitor to make a biopsy. There was some discussion as to the treatment to be adopted, and general agreement that this should not be local or of such a nature as to risk increase of inflammation in the parts affected.

Sir MALCOLM MORRIS and Dr. DORE: *An unusual condition of the lips.* The patient was a lady, aged 29 years, whose home was at Seattle, U.S.A., whence she had come for treatment. The trouble began when she was eighteen years of age, and appeared to have resulted from a habit of biting the lips and tearing off the skin. She discontinued the habit, but the condition persisted, and she had been under treatment for it practically ever since. He could not settle in his mind what the condition was; he had only seen one or two other cases comparable to it. Seven years ago she had had treatment by means of various ointments, and four years ago she had three months' treatment with the Finsen light, but that produced a strong reaction. Dr. Nevins Hyde, of Chicago, produced temporary benefit in the condition. Two years ago the patient consulted Prof. Lesser, in Berlin, who said it was a chronic inflammation of the lips, and prescribed an ointment, but after four or five applications there was no benefit. The patient then went to Prof. Unna, of Hamburg. Sir Malcolm saw her for the first time on September 22nd, eight weeks ago, when the whole of the lips were covered by a thick accumulation of scales, which caused the lips to protrude. When the scales were removed the lips were blue instead of red in colour. There was a certain amount of burning pain, but she complained most of a dead feeling in them, and the general irritation made her feel very desperate and hopeless. He did not regard it as cheilitis, but as belonging to a different group. In the latter Dr. Crocker said in his book that there was often an association with seborrhœa of the scalp. But there was no seborrhœa in this patient, nor was there any indigestion. She had, however, sluggish circulation in the extremities, and was somewhat neurotic. To call the condition eczema of the lips would be a misnomer, and it bore no relationship to Fordyce's disease. He had had a case something like it, which had lasted a long time, in a man from Johannesburg. He had tried radium in the present case, with only nickel screening and indiarubber and for not more than five minutes at a time at first, which was last time increased to seven minutes. It had improved enormously as a result, but his anxiety was lest the benefit might be merely temporary. One of the characteristics of the condition was the presence of a mucoid secretion, but that was present in many people who did not breathe well through their nose. The process seemed to be an enormous exfoliation, and then the re-forming of epidermis over it, and huge thick scales. Was it, as had been suggested, seborrhœa of the lips? He did not regard it as an inflammatory condition in the ordinary sense of the term. The man, whom he had already referred to, he treated with radium, and he apparently got well.

The PRESIDENT said the improvement in the condition produced by the radium seemed encouraging. Such cases often seemed obstinate, because it was such a difficult site to treat.

Dr. PRINGLE said he confirmed the statement about the subjective symptoms which such patients had. He thought the condition was parallel with that of the finger-tips seen in some persons with "chilblain circulations" where there was paræsthesia and a fine scaly condition of the tips of the fingers.

Dr. SEQUEIRA showed (1) a case of *tertiary syphilis* (gummatous teno-synovitis). The special interest in this case lay in the severe and recurrent affection of the tendon-sheaths and large synovial sac of the right hand.

The patient, a healthy-looking man, aged 47 years, unmarried, contracted syphilis fifteen years ago. He was treated with mercury for rather under a year. The secondary eruption was apparently slight, and when it had cleared up the patient did not continue under treatment. Six years ago there was an outbreak of gummatous ulcers on the inner aspect of the left thigh and on the back of the right hand, and on the extensor and flexor surfaces of the right forearm. The ulceration healed up entirely in three months under specific treatment. The mucous membranes had not been affected since the early secondary stage.

The patient remained quite well until November, 1908, when Dr. Sequeira first saw him in consultation with Dr. Macgregor. At that time there was an enormous fungating swelling involving the whole of the little finger except the ungual region. This tumour extended down the back of the hand. On the outer side it reached the base of the middle finger. At first the swelling was very tense and of a dark purple colour, but it broke down rapidly into dirty ulcers covered with a yellowish-brown slough. The plate showed the condition very well. It would be remarked that it closely resembled the appearances seen in severe tuberculous dactylitis, but the whole process was much more acute, the duration of the tumour formation and ulceration being a little over three weeks. Under mercurial inunction and the internal administration of potassium iodide and weekly pastille doses of the X-rays the swelling disappeared, and the ulceration healed in four weeks. The treatment by mercury was, however, not continued sufficiently, and there have been three relapses, but all have cleared up under the same treatment.

The relapses consisted of smaller purplish swellings on the right hand and one on the left side, and on the dorsum of each foot.

Three weeks ago the right hand began to swell. The swelling appeared in the palm and above the wrist. It occupied the region of the larger synovial sac, extending from the roots of the fingers to the lower border of the anterior annular ligament, and for 2 to 2½ inches above that band. The swelling was brawny and painful and of a dull red colour. Large bullæ appeared later upon the surface. The dorsum of the hand was enormously swollen, œdematous, and pitted deeply on pressure. There had been considerable pain. The patient was in this condition when shown at the meeting. There was no doubt that the present affection lay in the large synovial sac of the hand and wrist. The fact that there was a depression in the site of the annular ligament was proof of this. The great œdema on the back of the hand was similar to that seen in deep suppuration in the palm.

The lesions of the fingers in November, 1908, and at later dates had also been in the tendon sheaths. The tendons of the affected fingers had become fixed as in whitlow, and the movements were impaired. The X-rays showed that the bones themselves were quite unaffected. The Wassermann reaction was positive.

(2) *Symmetrical plantar nævoid tumours* in an infant. The patient, a healthy infant, aged 6 weeks, was brought to the Out-patient Department at the London Hospital a week ago. At birth the nurse noticed that there were swellings on the sole of each foot, and the mother discovered them on the third day.

On the inner side of each sole on a level with the tubercle of the scaphoid bone there were subcutaneous, mobile, oval tumours the size of a small almond. The skin over them was of normal colour. Pressure did not diminish their size, and they felt like lipomata or fibrolipomata.

No member of the family had been known to suffer from a similar affection.

His colleague, Mr. R. Warren, informed him that he had seen a similar case, and on cutting into one of the tumours had found that it consisted of fat. The tumours would be removed, as they would prevent the child from walking properly. The character of the lesion would be reported on at a later date.

Dr. **Pringle** said that many models of the condition were labelled syphilitic lymphangitis at the St. Louis Hospital. He had under his care a case of many years' duration, in which crops of vesicles appeared from time to time.

SEVENTY-SEVENTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, HELD AT BELFAST.

REPORT OF THE PROCEEDINGS OF THE DERMATOLOGICAL AND ELECTRO-THERAPEUTIC SECTION.

By S. E. DORE.

(*Continued from page* 371.)

The subject chosen for discussion on Friday, July 30th, was "The Supposed Risks attending X-Ray Treatment of Ringworm," and was introduced by Mr. R. **Higham Cooper**.

He said that the subject might be divided into two parts: (1)

Injuries to the scalp, and (2) injuries to the brain. Injuries to the scalp could not be called "supposed risks," as most workers had, unfortunately, come across one or more instances, now happily rare since Sabouraud introduced his admirable technique. He (the speaker) had met with four distinct varieties of scalp injuries: (1) Visible dermatitis unaccompanied by epilation; (2) visible dermatitis accompanied by epilation, but followed ultimately by re-growth of the hair; (3) visible dermatitis and permanent alopecia; and (4) permanent alopecia unaccompanied by visible dermatitis. The second and third were the varieties commonly found and were due to overdosage. The first was due to the use of too soft and the fourth to that of too hard a tube. The operator must guard against the vacuum becoming too low by stopping treatment, not when the tube became blue, but when it shows signs of reversals. Turning to supposed risk of injury to the brain, Mr. Cooper said that out of all the tens of thousands of cases treated during the past six or seven years not a solitary case of injury had been reported. He had carried out experiments which confirmed those recorded by Dr. J. M. H. MacLeod in the *Lancet* of May 15th last in every particular. A pastille wrapped in a piece of black paper, and backed with lead foil, was placed against the scalp of a child of seven, on the opposite side of the head to the patch under treatment. The same pastille, always placed in the direct path of the rays, was used for every exposure on that child and others until seventy-five exposures of a normal pastille dose had been given. The average diameter of skull traversed was 15 cm., making the total distance 30 cm. A pastille placed at a similar distance without the resistance of the head turns to tint B in sixteen normal pastille doses. The pastille in question showed no appreciable change from tint A.

Mr. Cooper, describing a further experiment, said he took a dried skull of a child of five, and a small piece of fresh scalp from the body of a child of the same age. He made a screen of cardboard coated with white lead paint until it offered the same resistance to the rays as the piece of scalp. A point in the cavity of the cranium through which the greatest number of rays passed during the operation for total epilation having been found, a pastille was introduced through the foramen magnum, interposing the prepared screen to represent the scalp. The skull was then exposed as in a case of total epilation, the pastille being turned to face the tube in each change of position. No allowance was made for the resistance of the contents of the skull under normal conditions, nor for the added resistance offered by the bones themselves in a fresh state, which in another experiment necessitated an exposure one and a half times that required by a dried bone of the same age.

The areas irradiated were accurately marked out, and required eight separate exposures to complete the surface of the normal hairy scalp. The distance of the experimental pastille averaged 7 cm. from the internal bony surface, and adding the thickness of the cardboard and of the bones, the distance of the pastille from the anticathode was approximately 22·5 cm., or three times the distance of the normal pastille, which would, without interposed resistance, require nine doses to turn it. In this experiment it did not reach tint B until seventy-five pastille doses had been given, equivalent to nine and a half total epilations. Whenever these experiments occupied more than one day a water-colour tint of the pastille was taken in the evening to eliminate the possibility of change in colour during the night.

In the case of a child being treated, the portion of the brain in the situation of the pastille within the skull would receive one ninth of a pastille dose during an epilatory exposure. In treating a child, the additional resistance of the brain itself and its membranes and the moisture in the bones are by no means inconsiderable.

Mr. Cooper said that the whole question of risk depended upon the least dose of X-rays which could possibly cause harm. He had always regarded anything less than one pastille dose as stimulant, one pastille dose or a little more as temporarily inhibitive, and a greater dose than that as destructive. He concluded that there was no risk of injury to the brain, and when Sabouraud's instructions were followed, very little risk of injury to the scalp, and further, that even this risk would disappear with improved apparatus, especially as regards regulation of the vacuum of the tube.

DISCUSSION.

In the discussion following the paper Miss MARGARET DOBSON, M.D., said that she had had three cases of dermatitis of the scalp, and in all of them the megalosporon endothrix was present. She suggested that cases of ringworm in which this spore was found might be more prone to X-ray dermatitis than others.

Prof. **Wild** had found that private patients objected to the temporary alopecia caused by the X-rays. He considered the treatment justifiable where a quick cure was urgent. He thought there was no proof that X-rays killed the spores, and therefore parasiticidal remedies should be used after epilation to complete the cure. He agreed that there was no risk of injury to the brain.

Dr. J. H. **Sequeira** said that he had treated 1400 cases by the pastille method. He considered risk of injury to the brain was purely imaginary. At the same time he preferred not to treat children under three years of age where the fontanelles were not properly closed. Two hundred and sixty-seven of his cases had come from institutions where they were under expert examination of both medical officers and school teachers. From these he had had a report that in no single instance was there, after several years' interval, the slightest evidence of any delayed development or other injury to the brain. Sabouraud, Fox, Adamson and MacLeod were unanimous in the same statement. As to methods of treatment, he gave smaller doses where the hair was fine in texture, considering it more responsive than coarse hair. He regarded the X-ray treatment of ringworm as rapid, efficient and safe, but made it a rule that in every case the child's parent should give a written guarantee that no legal proceedings would be taken should dermatitis or alopecia result.

Dr. R. W. **MacKenna** considered that the evidence given was sufficient for a verdict for the X-rays of "not guilty" of causing injury to the brain, and his own experience would accord with such a verdict. As to alopecia without dermatitis, such a condition often occurred in cases of ringworm where no X-ray treatment had been given.

Dr. R. E. **Howell** asked if it were a common experience for the hair to turn grey. This had happened in the first case he treated some years ago.

Dr. S. E. **Dore** said that the exaggerated reports which had been promulgated in the lay press on this subject were much to be deprecated. In his experience of a considerable number of children treated by the X-rays there was no evidence of any harmful effect on the brain. It seemed reasonable to infer that a single epilation dose that did not injuriously affect the skin would not injure the underlying brain-tissue; it was only in the case of many consecutive exposures to the scalp, when the rays converged on the base of the brain, that some injurious action might be feared from the effect of the "cross-fire." As far as he knew no symptoms referable to the brain had ever occurred about the fifteenth day after exposure, when epilation takes place; large numbers of children had been treated by Sabouraud in France (3000 in five years) and by Colcott Fox and others in this country without any ill-effects. Many cases of rodent ulcer, in which the tissues and bone overlying the brain were destroyed, had been continuously treated with X-rays without adverse symptoms. The result of the X-ray treatment of epilepsy was uncertain. If, as had been shown, only 20 per cent. of the rays penetrated the skull and small doses acted as a stimulant, the effect of an X-ray epilation would be stimulating rather than inhibitory.

Dr. **Sequeira** then read a communication from Dr. A. H. **Pirie** in which he described a case treated four years ago. Permanent alopecia had resulted, but there was no evidence of any ill-effects on the brain. Dr. Pirie believed in very careful regulation of the current used to ensure uniform dosage.

The **President** thought that in consideration of the weight of evidence from all quarters they might regard the spectre of brain trouble as abolished.

Mr. Cooper, in reply, said that he thought germicidal agents should always be used in hospital cases to prevent re-infection. While not maintaining that the X-rays directly killed the spores, he found the disease cured by the use of X-rays alone, whether either the whole scalp was epilated at once, or at intervals (as in the case of most private patients), ordinary precautions being taken to prevent re-infection. In conclusion, he thought that after that morning's discussion they might quite relieve their minds of fears as to possible injury to the brain.

Notes of a "Case of Cutaneous Actinomycosis" were then read by Dr. D. E. Allworthy.

The patient was a lady, aged 25 years, who stated that in May, 1898, a small swelling began in the neighbourhood of some decayed teeth on the left side. It appeared to be an ordinary dental abscess. After a time it grew larger and was lanced inside the mouth without any good result, and in a day or two the tumour was cut into from the outside, the only effect being the extraction of a small quantity of blood. Various lotions were applied and some seven teeth extracted, but by this time several other small tumours could be felt. The nodules evidently continued to multiply in the subcutaneous tissue of the cheek, and after infiltration and softening of the cutis, coalesced to form a mass of actinomycomata. The lesion had a sharp, circumscribed margin, extending from immediately under the lower lobe of the left ear downwards along the course of the inferior maxillary bone to the chin, and in width from the sterno-mastoid in the neck to the middle of the cheek. The majority of the cutaneous and subcutaneous tumours were hard, firm and elastic to the touch, and the whole surface was uneven and excruciatingly tender.

The discharge contained minute grey granules and greenish-yellow particles, which were easily detected by the eye when spread on a glass slide. Microscopic examination proved these to consist of colonies of the actinomyces or ray fungus. The characteristic long branching and finely interwoven mycelial threads of the streptothrix formation, with some radiating club or wedge-shaped projections, were apparent in glycerine and stained preparations.

There was little doubt as to how the disease originated, as the patient stated that she was in the habit of chewing and eating uncooked oaten meal in the form known as "flake meal." The view generally held in such cases is that the awns of grain, covered with the fungus, penetrate between the teeth and into the gums and tongue. From the beginning of August until the middle of October thirty exposures to the X-rays of ten minutes each were given. The treatment, while not sufficing to alter appreciably the size of the tumours, gave relief by making the part less painful and sensitive.

Treatment was suspended until the end of November, owing to the birth of a daughter, and then, having arranged for the child to be artificially fed, Thomassen's treatment by iodide of potash was begun. A 10 gr. dose was administered three times a day for the first week, one of 15 gr. the second week, and 20 gr. the third week. Immediate contraction of the granulation took place, and the granules in the discharge were not so easily detected. By the end of January no trace of the fungus could be discovered. The dose was subsequently increased to 30 and 35 gr. three times in the day, given intermittently after the third week in January, with cessation intervals of about a week at a time. At the beginning of March only two small tumours remained over the parotid region.

The case emphasised the necessity for differentiating from actinomycosis any tumour of subcutaneous origin simulating new growth, and reddish or purplish-red in colour. It also illustrated the negative effect of the X-rays in promoting the absorption of the swellings and the destruction of the fungus.

In a paper on "Some Practical Uses of Static Electricity," Dr. Howard Humphris said that static currents found their greatest sphere of usefulness in the relief of pain, and this is due to the fact that they remove the congestion and stasis with which almost every pain is caused or accompanied.

Immediate relief can be obtained in affections such as neuritis, lumbago, and other myalgias, and synovitis.

The current produces a cellular, protoplasmic massage under the influence of which stasis cannot exist, the fluids from the infiltrated area are expressed, and some relief from the pain results. This cellular activity paves the way for an improved state of local and also general metabolism, as seen by an increased excretion of urea and increased perspiration, accompanied by lowering of arterial tension.

There are some cases in which the patient will not stand the wave current, and in these the brush discharge may be tried, but he found that it did not compare with the wave current in prompt efficacy. In synovitis the number of applications required depends entirely upon the extent of the anatomical changes taking place, and should be continued until all pain and swelling have subsided.

In conclusion he urged the claims of static electricity in the treatment of these painful affections as being rational and effective.

Dr. E. B. Hazleton, in a short paper on "X-rays in Gynæcology," advocated their use where it was advisable to render a woman sterile, and for the reduction of fibroids and of offensive discharges.

Mr. Cooper, while agreeing that men and small female animals were sterilised by exposure to X-rays, thought that the ovaries in an adult woman were too well protected for X-rays to cause permanent sterility without seriously affecting the superficial structures.

"Some Observations on the Existence of a Special Susceptibility—Idiosyncrasy—to the Röntgen Rays," by Mr. John Hall-Edwards. As Mr. Hall-Edwards was unfortunately unable to be present, this paper (of which the following is an abstract) was read by Dr. Sequeira.

In the early days of the application of the X-rays to diagnosis and treatment, all ill-results produced were accounted for by attributing to the patient a special susceptibility. In the light of our present knowledge there is no doubt that in the great majority of these cases the result was due to mal-administration and over-exposure, and not to any inherent susceptibility possessed by the patient.

The X-rays were at that time often administered by operators who were completely ignorant of their properties and effects, and in many instances untrained in the management of the apparatus used. Over-exposure was often mistaken for under-exposure, with the result that a second, third, and fourth attempt was frequently made to secure a radiograph when in the first instance over-exposure was the cause of their failure. Moreover, we had no methods of measuring the output of rays, and the length of exposure as measured by the amount of rays absorbed was an unknown quantity. Most of the early workers were forced to admit the existence of idiosyncrasy, because they failed to imagine that any other efficient cause could exist.

Even at the present time much difference of opinion in regard to this question exists, but there can be little doubt that the reaction produced by a measured quantity of the rays differs in severity in different individuals, and that a limited susceptibility does exist, although this can hardly be said to amount to idiosyncrasy.

From the results published of the very early cases of radio-dermatitis, it might be assumed that a dose only sufficiently large to cause the slightest possible reaction in one individual was capable of producing disastrous results in another. We are now aware that this is not the case, and it is now possible, in skilled hands, to administer a dose capable of producing a desired effect without any fear of greatly transcending it. On the other hand, it is impossible by any known means to administer a dose which will produce exactly similar effects in two individuals. In order to prove the existence of idiosyncrasy we must be in a position to show that a dose which in one person would be only sufficient to produce a slight erythema may in another individual bring about a severe radio-dermatitis.

There can be no doubt that the amount of reaction which follows irradiation is to an extent dependent upon the bodily health of the patient, upon the position of the surface to which the X-rays are applied, upon the age of the patient, and upon other causes. Persons who are particularly sensitive to the sun's rays are more susceptible to the X-rays. Early pigmentation occurs, as a rule, only in dark people, and although this to an extent prevents the early appearance of a radio-dermatitis, I find that when the reaction does set in, it is far more marked than in persons who show no tendency to pigmentation. Pigmentation as a rule disappears after the lapse of time, but I have on record two cases in which the pigmentation appears to be permanent. I look upon the early appearance of pigmentation as the danger signal, and always proceed with great caution after its appearance.

There is as a rule a more marked reaction in fine skin than in coarse, and children are more susceptible than adults, whilst old persons tolerate exposures of greater intensity than could be borne by adults. Not only do individuals react differently, but there is a marked difference in the sensibility of the skin in different portions of the body. The portions which are covered with hair are generally accepted as being those which are most sensitive, but inasmuch as the hair can be removed without producing any other form of reaction, I do not consider that this contention is proven, and in my experience the skin of the scalp shows more power of resistance than the skin on other portions of the body. Where the epithelial layer over the skin is thick, such as the palms of the hands and the soles of the feet, the surface is highly resistant, whilst the backs of the hands and the extensor surfaces of the limbs are particularly susceptible. Notwithstanding these facts I advise that irradiation of the thick-skin portions of the body should be proceeded with with great caution, for should an over-dose be administered in these parts, the results will be found to be more disastrous and more difficult to cure than if it occurs in the more susceptible parts.

The skin of the face is as a rule particularly sensitive, but there are exceptions which are difficult to account for. Quite recently there has been some discussion as to the danger which exists in exposing the eye to the rays. Personally, as I have previously stated, I have found the eye to be very resistant, and have seen no ill-effects follow long-continued exposures over this organ.

With the improved apparatus at our command and our more accurate technique, I am of opinion that in actual practice there is little danger of producing the radio-dermatitis by such an exposure as is necessary to bring about the most favourable therapeutic results, and there is no danger whatever in administering the exposure necessary for producing radiographs for diagnostic purposes.

Owing to the free publication of the histories of cases of chronic X-ray dermatitis in workers with the rays the public have been unnecessarily alarmed, and much misconception as to the dangers of the rays are rife. There is not the slightest necessity for fear, as there is no more, if as much, danger attendant upon their scientific application as frequently exists in the administration of many drugs now in constant and daily use.

Quite recently there has been an animated discussion in the lay papers, in which it has been suggested that all sorts of dangers are likely to arise from the free administration of the rays in the treatment of ringworm in children. Questions have been asked as to the changes in the brain which may follow such exposures, and it has been suggested that the continuance of this practice may possibly lead to the wholesale manufacture of idiots and lunatics. So far we have no cases recorded in which ill-effects have followed this treatment, although ringworm has been treated universally on the Continent by this method for a considerable number of years.

It is absolutely certain that no effects upon the nervous system can be set up in human beings by such doses as are now administered for therapeutic purposes, or for the taking of radiographs. The effects of the X-rays upon neuritis and neuralgia are in all probability due to local action and not to any effect produced on the central nervous system.

The proceedings then terminated.

In conclusion, this report would not be complete without a brief reference to the social aspect of the meeting. Irish hospitality is proverbial, and it will be long before those of us who visited Belfast will forget the kindly feeling and genial reception accorded to us at all times and on every hand. The fact that we have been brought into closer touch with our friends and co-workers in Ireland is not the least important, as it is certainly not the least pleasant result of our visit.

CURRENT LITERATURE.

SEVEN CASES IN WHICH OPERATION WOUNDS WERE INFECTED WITH MOLLUSCUM CONTAGIOSUM. (*Westminster Hospital Reports*, vol. xvi. 1909.)

THESE cases occurred in the practice of the late Mr. E. Percy Paton, and were as follows: Case 1.—Amputation of a breast for cystic disease on January 12th, 1903. Two molluscum growths found on the scar and close by on September 23rd. Case 2.—Gastro-jejunostomy performed August 25th. 1903; mollusca found in scar and vicinity of two months' duration; histological examination. Case 3.—Radical cure of hernia August 31st, 1903. and in April, 1904, mollusca in scar. Case 4.—Neck glands removed in 1903 and on June 1st. 1904, mollusca growth found on or near scar. Case 5.—Leg amputation on December 19th, 1903, and in June, 1904. mollusca found in the scar of about two months' duration. Case 6.—Radical cure of hernia on August 18th, 1903. and mollusca found in or near scar in June, 1904, of about two months' duration probably. Case 7.—Breast amputation September 30th. 1903, and on June 29th a molluscum growth in the scar. The healing in these cases was by first intention.

On consideration it was seen that the operating surgeon was the only common factor. The operations had been done at several places. On inspecting his hands carefully he found two small papules on knuckle of right index finger and on the ring finger. The papules presented some indication of umbilication, and a drop of clear fluid exuded from one on pressure. No molluscum bodies could be squeezed out. They disappeared under resolvent parasiticide treatment, but later one or two minute growths evolved on the same hand. No histological research was carried out on the hand lesions. The incubation was slow but could not be fixed definitely. The surgeon before the operation had disinfected his hands as usual.

T. C. F.

EXAMINATION OF THE URINE IN SKIN CASES. Polano. (*Derm. Centralb.*, April, 1909, p. 194.)

The author has systematically examined the urine in 200 skin cases. He considers there is a close connection between outbreaks of the skin and internal disorders. His results are as follows:

In pruritus he finds deficient acidity, but especially wanting are phosphates, and in treating such cases he has obtained good results by the use of phosphate preparations.

In chronic eczema the urine is concentrated with an increase in acidity and nitrogenous excretion; there is also a slight diminution in chlorides. This is exactly opposite to what is found in pruritus, and he considers this difference may be employed for differential diagnosis.

In psoriasis the conditions found were practically identical with the results in chronic eczema only more pronounced.

In Seborrhœa sicca capitis and Oleosa facei the urine was normal. On the other hand, in acne and rosacea there were variations in concentration, and in 50 per cent. indican was detected.

In Urticaria indican was, as a rule, found, and in greater amount than in acne; in other ways the results resembled those found in pruritus.

In Prurigo Hebra, as it is often associated with urticaria, he expected to find increased indican, but this was not the case.

Finally he is astonished at the high percentage of cases with albumen found by the French (Gaucher, Jaquet); he could only establish it in 2 per cent.

D. F.

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PEMPHIGUS AND DERMATITIS HERPETIFORMIS.

By GEORGE PERNET, M.D.

The following clinical notes of a case of a severe acute septic bullous eruption in a woman, followed after convalescence and recovery by an eruption of the type of Dermatitis herpetiformis, will perhaps be of some interest to dermatologists. In the title of this short paper I have employed the term "pemphigus" merely in order to call attention to the clinical features. The term "pemphigus" must be taken, therefore, in a wide sense. That it is not a good one I am quite aware, and there is no doubt the pemphigus group will have to be largely overhauled as our knowledge of the ætiology of bullous eruptions increases. As far as analytical work of that kind is concerned I would call attention to the type of acute pemphigus, or better, perhaps, of acute bullous eruption, which I have dissociated and shown to occur in butchers and those handling animal products.* This class of case is now known as the Pernet-Bulloch type.† French writers, however, refer to this acute pemphigus of butchers as the

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* Pernet, "The Ætiology of Acute Pemphigus," *Brit. Med. Journ.*, 1895 (London Meeting British Medical Association, 1895); Pernet and Bulloch, "Acute Pemphigus: a Contribution to the Ætiology of the Acute Bullous Eruptions," *Brit. Journ. Derm.*, vol. viii, 1896, pp. 157, *et seq.*

† Joseph Grindon (of St. Louis), "Acute Septic Pemphigus," *Journ. of Cut. Dis.*, New York, vol. xxvii, 1909, p. 439.

Brocq-Pernet or Brocq-Pernet-Bulloch type. Needless to say that I have a high regard for the work and writings of Dr. Brocq, but I do not quite see why his name should appear in this connection, for I think I may fairly claim to have been the first to insist on the relation between a wound as a source of infection and the acute pemphigus of butchers, a fact subsequently elaborated by Bulloch and myself in our joint monograph. The denomination Pernet-Bulloch type given to this form by American colleagues therefore fits the case.

I will now relate the particulars of the illness, which is the subject of this note.

Mary Ann P—, aged 57 years, was first seen on April 27th, 1907. The history of the case was as follows: The disease dated from January, 1907, and began as a small lump inside the vulvo-vagina, which in the course of some twelve hours developed into a large "bladder." There was great pain until this bullous lesion burst. This was followed by inflammation and soreness of the parts. These manifestations subsided and healing took place, to be followed a fortnight later by the formation of a larger and much more painful bulla just inside the vulva and involving the urethral orifice, causing great pain on micturition. This was followed by the appearance of a great number of much smaller bullæ about the vulvar region, but these caused no pain. By the first week in April all this had healed, but at that time three blisters appeared about the navel, followed by others, which spread to the other parts of the body—abdomen, chest, thighs, arms, etc. Since then fresh crops appeared constantly, accompanied by involution of some of the bullæ of precedent crops.

The patient was in this condition when first seen by me, and her state was very serious.

The following is a rapid description of the extent and appearances of the eruption: The bullæ varied in size from a large pea to lesions two inches in diameter, some of the latter being rather oval in shape. The recent bullæ were tense, with a tendency to purulence. The bullous lesions were very numerous and closely set, with some attempt at grouping here and there. There were fewer on the back. Those on the sides and lower parts of the body were crusted, and there were signs of old lesions which had flattened down. The arms, hands, and fingers were involved, and the thighs markedly so, some of the bullæ on the inner side of the left thigh, for instance, attaining such sizes as 3 in. by 2 in., but the patient stated that even so they were not so large as they had been.

The mouth had also been affected for one month.

On the face there were a few lentil-sized lesions, crusted, and there were similar ones about the angles of the mouth.

On the tongue, remains of a group of three or four hemp-seed-sized vesicles, but on the hard and soft palate there were some large blebs, the uvula being also involved.

The nostrils had been very sore, and looked as if they had been the seat of an eruption which had dried up.

The inner parts of the vulva were reddened and sore, but there were no actual lesions at the time of examination.

The legs, feet, and toes were also affected, and presented large, blebby areas formed by coalescence of lesions. The soles were free.

History.—As far as this was concerned, the patient had had great home anxieties and troubles. Three years previously she had had some eczema on legs and arms. For many years she had had a white or yellow vaginal discharge. She had worn a pessary on account of retroflexion, but she asserted the instrument had always been well looked after. (At the time I made a note that the case did not appear to come into the "stinking" pessary class.)

One child living, aged 37 years. No miscarriages. No phthisis in the family. Father and mother healthy, the former living to the age of 65 and the latter to that of 55.

Urine: No albumen.

The patient's condition was extremely serious and did not look hopeful as to the event. She was at once placed on a water-bed (a very important point I consider) and the discharging surfaces dressed with 1 in 60 carbolic oil.

The following is an account of subsequent observation:

April 27th, 1907: Temperature on admission, 100° F. No albumen in urine.

April 28th: Liq. arsenicalis ♏v *ter die, p. c.*, was ordered.

May 6th: A trace of albumen.

May 10th: Liq. arsenicalis was increased to ♏viiss *ter die, p. c.*

May 12th: Diarrhœa. Arsenic omitted.

May 14th: Temperature went up to 101·5° F.

May 15th: Diarrhœa subsided. She was now put on—

Liq. arsenicalis	♏v
Liq. opii sedat.	♏v
Tinct. lupuli	♏xx
Aq. chlorof. ad.	℥j

ter die, p. c.,

for I considered the arsenic had done some good, although it had apparently led to the diarrhœa.

From this time on the patient slowly but steadily improved, the crops of bullæ becoming less and less marked.

The carbolic oil had to be stopped on account of some carboluria.

June 20th: During the last few weeks there has only been a small abortive bulla now and then. The skin has cleared up and the patient takes her food well.

She is going home for a week and then to a convalescent home (Folkestone).

There is now no vaginal discharge, only occasional slight leucorrhœa (needless to say I had ordered vaginal douches).

Commentary.—The recovery of this patient was a great satisfaction. In addition, of course, to the faithful nursing, the opium appears to have played an important part in the treatment. The combination of the liq. arsenicalis with the liq. opii sed. is one that may commend itself to others who may have to deal with a desperate case like the present one, and it is to be hoped, with as good results.

When first seen the possibility of a Pemphigus vegetans developing was on the cards, seeing that the disease commenced in the vulvo-vagina. But the clinical features of Pemphigus vegetans were not observed in the course of this case.

As to ætiology, the vaginal discharge was possibly to blame, or some accidental infection of the external genitalia or of the vaginal discharge by the nails or fingers may have started the trouble. The woman, I may add, was a housewife, and attended to cooking, etc. No wound was traced.

The house-physician, who happened to be in charge of the ward, reported he had found a diplococcus in the contents of a bulla, but he did not follow it up, as in the notes I find no record of further report.

But to return to our patient. On July 26th, 1907, she reported herself as doing well. She looked much better after her stay at the seaside. Recently she had had two small blisters on the legs.

I put her back on—

Liq. arsenicalis	♏v
Liq. opii sedat.	♏ij
Aq. ad	℥j

t.d. p.c.

August 2nd: No more blisters, but she now presents a fine papular eczema about the chest and arms. It is a sweat eczema of the fine papular type.

August 9th: Under *ad hoc* treatment the eczema has improved. One small blister has appeared since.

August 16th: To-day the patient's trunk and arms are covered with circinate and gyrate, elevated erythematous lesions, some of them slightly depressed in the centre, and there is a tendency to vesiculation. About the legs and over the front of the right shin there are small split-pea vesicles. Just above the right tendo Achillis there is a bulla half an inch in diameter. The rash is extremely irritating, and is of the Dermatitis herpetiformis type.

The patient was put on salicin gr. x ad ℥j *t.d*, *p.c.*, and locally lin. calaminæ.

August 23rd: The patient has fresh bullæ scattered about body and limbs, especially on legs. Several large blisters round right knee-joint. A number of minute vesicles scattered about, large pin-head in size. Mouth is free. The patient was put back on the liq. arsenicalis and liq. opii sed. mixture.

August 27th: The patient is worse. A few days after this she was re-admitted, and again did well on the same line of treatment she had had for the first severe attack, which I have described. This second attack, which started like a Dermatitis herpetiformis, subsequently rapidly becoming bullous, was not nearly so severe as the first one, and the patient was soon discharged. Since then I have not seen her.

Commentary.—It is well known that the Vienna School do not, or at any rate Kaposi, for long their head, did not, admit Dermatitis herpetiformis as an entity, but classed the latter with pemphigus.

Dermatologists will draw their own conclusions and form their own opinion. In any case the details I have set forth are worth placing on record, as they may prove of some value to other workers.

THE VACCINE TREATMENT OF ACNE VULGARIS.

By G. T. WESTERN, M.A., M.D., B.C.Camb.

Before discussing the treatment of Acne vulgaris by specific immunisation with bacterial vaccines, it is necessary to review shortly the opinions held as to the ætiology and bacteriology of this common infection.

Acne vulgaris may be described as a condition in which there is a hypersecretion of sebaceous material associated with, or caused by (according to different authorities), an infection of the ducts by a micro-bacillus. The condition is modified by secondary cell-proliferation, fibrosis, pus formation, and infection with other bacteria, hence various types of Acne vulgaris are met with.

The Acne bacillus was first described by Unna (1) in 1893. He found that it was constantly present in sections of comedones and in smears made from the comedones or the pustules. He did not succeed in growing it on artificial media, but found it in the lesions with such constancy that he felt justified in considering it to be the cause of both the comedones and the pustules. The seborrhœa, on the other hand, he considered to be due to some functional derangement of the sweat glands.

In 1897 Sabourand (2) described the same organism as being demonstrable in the sebaceous plugs expressed in cases of "Séborrhée grasse." He gave it as his opinion that the "*Bacillus séborrhée grasse*," as he named it, is the cause of the seborrhœa, but that the comedo, the pustule, and the induration in cases of acne are due to secondary infections occurring in a case of "Séborrhée grasse." He agrees with Unna that the bottle bacillus of Malassez is of no pathological significance.

He also succeeded in cultivating the bacillus he described on an acid peptone glycerine medium, isolated it in pure culture and described its cultural and staining characteristics. He concluded, therefore, that the term "Acne bacillus" was not justified.

Gilchrist (3), in 1899, published a series of investigations on the bacteriology of Acne vulgaris. He took cultures from 96 lesions on 55 patients and obtained the micro-bacillus described by Sabouraud in 11 lesions, while from 31 he grew the *Staphylococcus albus*, and 54 remained sterile. He remarks, "It would be safe to conclude that the presence and growth of this bacillus is the cause of the acne pustule, and that the growth of *Staphylococcus epidermidis albus*, which is always present on the skin, was due in many cases to faulty technique, and that in other cases the *albus* was a secondary invader." He therefore gave the bacillus the name "*B. acnes*."

In 1903 the same worker (4) published some further results. In cultures taken from 145 lesions he obtained *B. acnes* in pure growth on 52 occasions, *B. acnes* + *Staphylococcus albus* on 44, *Staphylococcus albus* alone on 21, while there were 28 sterile results. In 64 cultures taken from 9 cases of the chronic indurated variety he obtained *B. acnes* in pure culture on 32 occasions, while it occurred in association with *Staphylococcus albus* in a further 18 cultures; 11 cultures remained sterile, while only 3 grew *Staphylococcus albus* alone.

He found *B. acnes* in all of 240 smears. He further showed that the serum of patients suffering from acne possessed considerable power of agglutinating the *B. acnes*.

Whitfield (5) regards the seborrhœa to be the primary cause of the disorder, but to be independent in origin. He regards the acne bacillus as an accidental infection of the excessive secretion in the patulous follicle. The irritation so set up causes proliferation of epithelium and formation of the comedo. The suppuration he regards as due to a secondary infection with the ordinary pyogenic staphylococci, which he states "are invariably to be cultivated from the pus."

Fleming (6), in a recent paper, has brought forward considerable evidence to show that the acne bacillus is the cause of the comedo, and also may cause the pustules. He agrees with Gilchrist in finding the acne bacillus practically always present in films made from the pustular lesions (97 per cent.). In cultures, however, he does not obtain so high a percentage of positive results. Out of a total of 132 cultures he obtained the acne bacillus in pure culture on 13 occasions, while on 40 occasions it was present with *Staphylococcus albus*. Forty-four cultures grew *Staphylococcus albus* alone, while 35 remained sterile.

He further showed that if a culture of the acne bacillus be rubbed into the sterilised skin of a susceptible individual, a pustular folliculitis is produced from which the acne bacillus can be re-cultivated in pure growth.

He also shows that the opsonic index of patients suffering from acne commonly varies from the normal, and that an excessive dose of an acne vaccine given to such a patient will induce a negative phase, accompanied by a fresh crop of pustules from which the bacillus can be recovered in pure growth.

It appears probable that the view expressed by Whitfield is correct in so far as he considers that the seborrhœa is caused by some functional disorder independent of the micro-bacillus.

In support of this is the fact that seborrhœa is, in the black races, a protective function against excessive desiccation of the skin by the rays of the sun, and occurs without any infection of the skin with the acne bacillus. Again, the age of puberty, which is so commonly the age of Acne vulgaris, is an age at which vaso-motor changes and changes in various glandular tissues are taking place; it would seem feasible to suppose that the sebaceous glands should partake in this development and tend in some cases to hypersecrete.

We would, then, assume that the infection with the acne bacillus is a secondary occurrence, and is due to the fact that the sebaceous material affords a highly suitable medium for the growth of this micro-organism.

The acne bacillus having gained access to the secretion in the orifice of the sebaceous gland, causes, by the mechanical irritation set up by its presence, and also possibly by means of extra-cellular toxins, a proliferation of the adjacent epithelium. As a result of this the comedo is formed. This shows on section concentrically arranged epithelial cells surrounding a sebaceous plug, the micro-bacilli being present in the centre and also amongst the concentric layers of cells.

With regard to the question as to whether the acne bacillus is responsible for the pus formation, one's own experience leads one to the opinion that this bacillus can, and does in many cases, act as a pyogenic micro-organism unassociated with any staphylococcal infection. This is most clearly seen in the cases where the mouth of the sebaceous gland appears to have become entirely blocked up, with the result that retention abscesses are formed, which track along in the skin, and may extend for a distance of one to two inches in length. These abscesses are thin-walled, and are not surrounded by much inflammation or induration. They burst if left alone, and discharge their contents and close up and frequently refill. In this process they may get secondarily infected, and then more inflammation occurs. They may, however, be aspirated with a sterile syringe, and 1–2 c.c. of true pus removed. This pus, on examination, shows numerous acne bacilli to be present, and no staphylococci can be found. On cultivation a pure growth of the acne bacillus may be obtained. Further, it will be found that a cure can be obtained with an acne bacillus vaccine, while staphylococcus vaccine will produce no benefit.

Acne is commonly described as a polymorphic disease. The various types of acne met with clinically are the result of combinations of various factors. Firstly, there is the varying response offered by the tissues to the presence of the infecting micro-organisms. Secondly, there is the difference in the infection, *i.e.* whether it is a pure or a mixed infection, and in the latter case the lesions will vary according to the relative resistance offered by the tissues to the one and to the other microbe.

It will be clear, therefore, that if specific treatment is to be carried out with the expectation of the best results, an accurate diagnosis is necessary at the outset. For this purpose smears of material from the lesions should be made wherever possible and examined microscopically. Valuable evidence can, of course, be derived from a clinical examination of the case, but this alone is sometimes very misleading, especially in pustular cases.

Roughly speaking, cases fall clinically into three groups:

(1) Where the comedo is the dominant feature;

(2) Where induration is most marked (Acne indurata).

(3) Where the outstanding feature is abscess formation (Acne pustulosa).

Frequently, however, a combination of these types will be found in the same case.

Fleming has consequently suggested a classification on purely bacteriological evidence. This is, of course, of more value if the case is to be treated by specific inoculation.

In his classification Group 1 consists of those cases where the acne bacillus is the *fons et origo malorum.* In this group he includes cases where the comedo is the dominant feature, also some of the indurated and pustular cases.

Group 2 consists of those cases where the infection is mixed, acne bacillus and staphylococcus. In this group appear most of the indurated cases and some pustular ones.

Group 3 consists of cases where the staphylococcus is the main cause of the trouble, and the acne infection is slight and very much masked.

These groups, it will be seen, correspond roughly with the three clinical groups given above.

It is at once obvious that the line to be taken in specific therapy follows immediately on such a classification.

In the first group the specific treatment will be with an acne bacillus vaccine. This is well illustrated by the following case:

Case 1.—A man, aged 35 years, had suffered for four years with numerous large comedones over the back and shoulders. There was practically no pus formation and no acute inflammatory foci. Treatment had been carried out with local applications, heat baths and massage, and expression of the large blackheads, with little improvement. Films of the comedones showed numerous acne bacilli with very few staphylococci. The acne bacillus was grown and a vaccine prepared. Doses varying from six to ten million bacteria were given at intervals of about eight days. The comedones were expressed as before. After five doses the skin was clear and the comedones ceased to appear.

The only local treatment necessary in these cases consists in systematic expression of the comedones. This is greatly facilitated if the skin be softened first with hot water and soap, or they may be expressed readily immediately after a Turkish bath.

The duration of treatment necessary in such cases must of course vary greatly according to the severity of the infection; if an autogenous vaccine be used, however, a rapid improvement may be confidently expected, and most cases will be clear within a month or two.

In the second group of cases, namely, the cases characterised by much induration and caused by a mixed infection (acne bacillus and *Staphylococcus albus*), the specific treatment must be directed against both micro-organisms.

Into this group will fall many of the failures of inoculation treatment previous to the introduction of an acne bacillus vaccine; and further, these cases which were put down as comparative failures are now very striking examples of the pathogenicity of the acne bacillus and of the efficiency of the corresponding vaccine.

The following cases are examples of this group :

Case 2.—A boy, aged 19 years, came to the London Hospital in 1908. He had suffered for eighteen months with numerous large blackheads on the face, neck, back, chest, and arms. The condition when he came to hospital was as follows : Very numerous comedones over the face, ears, neck, shoulders, back, and chest. Many of these had formed pustules, while others had formed retention abscesses in the skin, which tracked for some distance before bursting. There was a considerable amount of induration.

From May, 1908, until December of the same year he was treated with staphylococcus vaccine. During this time he showed considerable improvement, in so far as the superficial pustules almost ceased to appear ; there was also less inflammation.

The comedones, however, continued to form, as also did the tracking abscesses. The pus from these abscesses had been examined by culture in May, but no growth had been obtained ; the acne bacillus was present, however, in films of the pus.

In January, 1909, more cultures of this pus were taken on media suggested by Dr. Fleming, and the acne bacillus was grown in pure culture.

A vaccine was made and treatment carried out with it. The improvement since that date has been extremely striking. Comedones are now only found with difficulty, and the cutaneous abscesses have dried up and formed firm scars.

Case 3.—A boy, aged 18 years, had suffered from Acne indurata for three years. In May, 1908, when first seen by me, there were a few blackheads on the face and also a few pustules. The induration and scarring was, however, very marked. The indurated areas were reddish-purple in colour and were very tender, but there was seldom much pus formation in these areas.

Treatment with staphylococcus vaccine was carried out for six months. During this time the superficial pustules ceased to form, but the deep indurated foci continued to appear much as before.

In January, 1909, treatment was commenced with an acne bacillus vaccine, and was followed by very marked and rapid improvement, and fresh foci ceased to appear.

The local treatment of this group of cases consists in evacuation of abscesses, expression of comedones, and where induration is marked, steaming or Turkish baths followed by massage is useful.

The evacuation of the large acne bacillus abscesses is best done with a syringe, as by this means the ultimate scar is not so marked as is the case after incision. The small pointing pustules should be opened with a needle or a sharp-pointed tenotome.

The indurated areas should not be incised unless it is certain that there is pus to let out, otherwise considerable scarring is likely to take place.

In Group 3 we find most of those cases which have during the last few years been published as cases of Acne vulgaris treated successfully by staphylococcus vaccine.

We have seen that here we have marked superficial pustulation due to infection with the *Staphylococcus albus,* and in many cases this is so marked that it is difficult to find any sebaceous plugs at all.

Treatment here will obviously be with a staphylococcus vaccine, which will rapidly clear up the pustulation. It will then be possible to determine how far the acne bacillus is the real basis of the condition. This is well shown by the following case:

Case 4.—A woman, aged 21 years, suffered from Acne pustulosa on the back and chest. No comedones could be found, and cultures failed to grow anything except *Staphylococcus albus.* A vaccine of this organism was given. After six weeks, during which time four injections were given, the pustules had entirely cleared up. It was then evident that there were a considerable number of small comedones and sebaceous plugs, which on examination showed numerous acne bacilli.

An acne bacillus vaccine was therefore given, with the result that the condition entirely cleared up.

The local treatment in these cases need be slight, as they clear up so rapidly with specific inoculations alone. Any large comedones which appear may be expressed, also the pustules as they point may be opened with a needle, care being taken not to infect the surrounding area with the pus.

In conclusion a word should be said with regard to the vaccines employed. In the case of both organisms either a stock vaccine or an autogenous vaccine may be used. In my experience it is seldom necessary to make an autogenous staphylococcus vaccine for a case of acne infected with that micro-organism; occasionally, however, cases appear to make no improvement until their own organism is used. This does not appear to be so definite a rule, however, in dealing with the acne bacillus. There is little doubt that the highest percentage of successful cases will be obtained when cases are treated with an autogenous acne bacillus vaccine in preference to a stock, although the latter will suffice in many cases.

The dosage of the acne vaccine, it should be remembered, is very small compared with that of other vaccines, from three to fifteen million bacteria being sufficient in most cases.

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4. GILCHRIST.—*Journal of Cutaneous Diseases*, vol. xxi, 1903, p. 107.
5. WHITFIELD.—*Skin-Diseases and their Treatment*, 1907, p. 135.
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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

AN ordinary meeting of this Section was held at 20, Hanover Square, on Thursday, December 16th, 1909, Dr. COLCOTT FOX, President, in the Chair.

Dr. P. S. ABRAHAMS showed (1) a case of probable *Pemphigus vegetans*. A. E—, aged 42 years, female, married, was sent to the West London Hospital on October 13th, 1909, by Dr. Timmins, of Acton. She was admitted as an in-patient as her condition appeared grave.

There were numerous bullæ, large and small, situated on various parts of the trunk, especially on the abdomen, upper arms, shoulders, thighs, and legs, but none on the forearms, hands, or feet. Many of these bullæ were hæmorrhagic, and some showed small fungating granulations where the bullæ had ruptured. She complained particularly of the soreness of the mouth and throat. The lips were swollen and covered with hæmorrhagic crusts and there were several flat bullous lesions on the mucous membrane within the buccal orifice on the cheeks and tongue, and the fauces were congested. No lesions were found about the vaginal and anal orifices, perinæum or groins, or axillæ. The pulse was 100, respirations 22, and temperature 99·2° F.

Family history.—Her father had died of "cancer," and a brother of "general paralysis"; her mother and other brothers and sisters were alive and well.

Previous history.—She had suffered from "anæmia" when young; otherwise she had been always well and strong until the early part of this year. She had been married twelve years and had had four children; one had died at five months, the others were healthy, the youngest three months old. The patient had lost all her teeth a year ago and had not masticated well with her false ones; she had long suffered from severe constipation. No history of venereal disease in herself or her husband.

Dr. Timmins had kindly given Dr. Abrahams the following information: She consulted him first early in September for severe ulcerative stomatitis, which no treatment seemed to relieve, and after three weeks she went to St. Mary's Hospital, where various mouth-washes and medicines were tried without benefit. Dr. Timmins was summoned to see her again in the second week of October, when she was in bed, her body "covered with large blebs," which had developed within a few days. Her mouth was in a worse condition than in September. On admission at the hospital she stated that the vesicles on the body and limbs had appeared three weeks previously—at first on the thighs and in crops ever since. There was considerable itching as they came out. The patient was at once put upon liq. arsenicalis, commencing with ♏iij *t. d., p. c.*, and gradually increasing to ♏ix *t. d.*, with iron and strychnine, and the skin-lesions seemed to improve, first under boracic fomentations, and then with orthoform dusted on and a compound creolin, lead, zinc and mercury ointment; but the mouth still remained sore, the conjunctivæ congested, and there were excoriations of, and bleeding from, the nasal mucous membrane. The dose of arsenic was then lessened. The voice became so much altered that Dr. Davis, of the Throat Department, was asked to examine the larynx. He found the condition so curious that he asked Dr. Abrahams to let him show the case at the Laryngological Section of this Society. His note was: "The laryngeal appearance is unique. The cords are a brilliant red, almost scarlet; they are thin and meet readily. There is no swelling of the arytenoids or ventricular bands. Epiglottis excoriated. The palate, tongue, tonsils, lips, and the anterior edges of the septum on both sides are affected and ulcerated. The patches resemble secondary syphilis, but are redder, more angry, and broken." He informed Dr. Abrahams that the diagnosis of Pemphigus vegetans was accepted at the Section.

The patient had been gradually improving.

Several pathological examinations had been made while she was in the ward. No eosinophile cells were found in excessive amount in the secretion scraped from the raw surface beneath the blebs, and cultivations attempted on two occasions proved negative for micro-organisms.

Several medical men who saw the case suspected it to be syphilitic, from the implication of the mucous membrane of the mouth and from the constant and dark colour of the older lesions. Dr. Abrahams did not take that view, but he had nevertheless asked Dr. Bernstein to try the Wassermann reaction. This had proved negative.

In the exhibitor's opinion it was a case of Pemphigus vegetans, differing in certain respects from two others that he had had under care within the last few years at the West London Hospital, especially in the great amelioration which had taken place under treatment and in the absence of lesions about the perinæum, groins, and axillæ. Both the other patients had died.

(2) A case of *Dermatitis herpetiformis*. L. W—, a little girl, aged 10 years, began to develop "sores" on the legs and arms in June last. In September she had come to the Out-patient Department of the West London Hospital with several bullæ upon raised red bases, some of them hæmorrhagic and ulcerating, and with pigmented scars of old lesions. The first diagnosis was "pemphigus," then "Epidermolysis bullosa" was suggested, and finally Dr. Abrahams came to the conclusion that this case probably came under the category of Duhring's "Dermatitis herpetiformis." The lesions had not so far appeared on the trunk; they were accompanied with considerable pruritus and pain. In every other respect the child was, and had always been, quite well.

She was admitted as an in-patient on October 8th, the sore place treated with boracic fomentations and then with a mild antiseptic ointment, and iron and arsenic internally, and was discharged with everything healed on November 5th.

She had returned about ten days ago with the affection as bad as ever, with new groups of bullæ, and some of the former lesions again active.

Mr. G. W. Dawson showed (1) the case of *Dermatitis herpetiformis* exhibited at the previous meeting, in the bullæ of which the Klebs-Loeffler bacillus had been discovered. Diphtheria antitoxin had since been injected (first injection November 17th), and by December 4th the eruption had completely disappeared, although the inunctions of sulphur ointment and the administration of Fowler's solution were stopped. On December 1st the antitoxin was reduced to 2000 units every second day, and on December 10th there had been a fresh outbreak of bullæ, but not nearly so extensive as previously.

(2) *Case for diagnosis* in a healthy young man, aged 25 years, who noticed eight years ago some discoloration of the legs below the knee. There was now to be noticed a more or less symmetrical yellowish discoloration of the entire lower extremities from the knees downwards, and a roundish patch on the inner side of each thigh, in addition to which there were a few small indefinite patches on his back. The margin of the coloration was sharply defined. There were no symptoms, and in other respects the skin was quite normal.

Dr. Pringle had very little doubt that the case was identical with those described by Dr. Radcliffe-Crocker and Dr. Pernet as Xantho-erythrodermia perstans. In the two similar cases which had come under his personal observation the results of treatment of most varied sorts had been disappointing. He was quite unable to give any explanation of the essential nature of the disease but referred for further information to Dr. Pernet.

Dr. Pernet said this case appeared to come into the category of the condition he had named Xantho-erythrodermia perstans, instances of which had been brought before the Dermatological Society of London by the late Dr. Radcliffe-Crocker and himself.* Dr. Pernet was indebted to Dr. Pringle for calling his attention to the present case, which he should like to examine in ordinary daylight.

(3) A case of *Bazin's disease* in a man, aged 36 years. The disease began on the lower part of the right calf in the year 1900 whilst

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* For details see *Brit. Journ. Derm.*, 1905, vol. xvii. p. 119.

acting as a mounted trooper in South Africa. There were now numerous circular scars, some of them the size of a sixpence, on the lower part of the leg, back and front, accompanied by considerable pigmentation. The left leg was less affected, there being a few scars over the tendo Achilles and a patch on the inner side of the tibia. The lesions began as indefinite pea-sized tumours under the skin, some of which ulcerated. The pain was trifling.

Dr. Colcott Fox presented *a case of Dermatitis artefacta* in a young girl, aged nearly 16 years, with two excoriated patches on each cheek about the length of a terminal digit and about the breadth of the digit. When first seen the superficial excoriation was apparently covered by a thin blood-crust, but to-day he noticed the covering was darker and suggested the application of some coloured substance. The patient said the lesions would not heal up. He had not the opportunity of interviewing the mother, but he understood the girl was highly excitable, that her menstrual functions were irregular with periods of amenorrhœa, and that at one time she had constant vomitings, once with blood. She had already applied at several hospitals, and the condition had continued off and on for about three years. The case was an example of a not very rare artefact condition arising in so-called hysterical girls, and the distribution and arrangement and the contour of the excoriations were very characteristic of one type of artificially produced "neurotic excoriations." The exhibitor had now seen a number of these cases.

The term "neurotic excoriations" probably included two types, the one produced in "hysterical" young people without obvious reason, of which the present case was an example, and the other in which great irritation was sought to be relieved by determined tearing with the nail. Such excoriations were smaller and had not the larger size and special distribution and significant arrangement of the first category. The primitive lesions were often difficult to recognise, and were attributed sometimes to urticaria. Dr. Adamson had reminded the exhibitor of a paper by Dr. Brocq on Acne vulgaris systematically excoriated ("L'Acné excoriée des jeunes filles et son traitement," *Revue générale de clinique et de Thérapeutique, Journal des Practitiens*, 1894).

Dr. SEQUEIRA asked the President's permission to examine the sensibility of the soft palate in this patient. He found it to be completely anæsthetic. The patient felt nothing, and there was no reflex on rubbing the surface of the soft palate with a pen-holder. Anæsthesia of the soft palate had been demonstrable in every case of factitious dermatitis *in the hysterical subject* Dr. Sequeira had examined. Associated with this he had occasionally found stocking and glove anæsthesia and also hemi-anæsthesia. Alteration in the visual field as tested by the perimeter had also been met. These concomitant signs of hysteria were a valuable aid in diagnosis, and the condition of the palate was easily examined.

Dr. PERNET suggested the possibility in some instances of an alternation of personality in this class of case.*

Dr. GRAHAM LITTLE showed (1) *a case for diagnosis*. The patient was a middle-aged man with a chronic granulomatous-looking affection involving the greater part of the skin of the right buttock. The history given was as follows: The patient denied any history of syphilis; he was apparently quite sincere and positive in this denial. The disease of the buttock had never got well, but had varied in severity during the past ten years. Dr. Turnham, of London, who had sent the case up for an opinion, had operated three years ago, removing a portion of the indurated mass. At first sight the resemblance of the disease to actinomycosis was strong, but no evidence of that disease was forthcoming on microscopical examination. A Fleming-Wassermann's reaction was reported to be positive, and on this authority the diagnosis of syphilis was offered, and the man had to-day been put upon anti-syphilitic treatment for the first time.

The resemblance to actinomycosis was remarked upon, but the diagnosis of syphilis was accepted in spite of the absence of history and the curious persistence of the lesions.

(2) A female child, aged 2 years, with an unusual number of *pigmented moles* scattered over the body, with the following general distribution and appearance. The lesions varied in size from that of a threepenny piece and smaller up to growths an inch and a half in diameter, and were distributed irregularly over the trunk, shoulders, buttocks, and limbs, and were mainly deeply pigmented moles without growth of hair. On the left buttock were two large hairy moles close together. There was a large lesion not denuded of hair on the vertex of the scalp.

The history given was that several of the larger moles had been present at birth, but that several had come out since then, and were still coming. The way in which they developed, as described by the mother, was striking. The first sign was usually a small, deeply red lesion, not unlike the lesion of Urticaria pigmentosa; several of these were demonstrable on the skin at the present time, and similar lesions had become converted, according to the mother, into the deeply pigmented corrugated excrescences which were also present. The resemblance to Urticaria pigmentosa offered by these initial patches was remarkable. No other member of the family was affected with moles; the mother herself was free, and she gave no history of fancies during pregnancy, which are sometimes supposed to cause birthmarks in offspring. There was no "spina bifida."

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* Pernet, "The Psychological Aspects of Dermatitis Factitia," *Trans. Amer. Derm. Assoc.*, Meeting Philadelphia, 1909.

The rapid advance in number and size of the moles constituted the interest of the case. Brocq cites a case of Audry's under the heading "Lentiginose profuse" (*Traité elementaire de Dermatologie*, vol. ii, p. 578), and remarks on the rarity of the condition. The prognosis seemed not entirely free from anxiety in view of the malignant tendencies of pigmentary tumours.

It was suggested, and the suggestion was accepted, that a biopsy should be performed and the result reported later.

Dr. **Adamson** stated that he had seen a closely similar case of multiple pigmented moles in a child. [On subsequently referring to the notes of the case he finds that it was the same patient. It is interesting to note that photographs taken at that time (October, 1908) indicate that the lesions have not since increased either in size or in number.]

(3) A case of *Keratodermie palmaire et plantaire symetrique et congenitale of Besnier.* The patient was a male infant, aged 16 months, and the condition for which he was shown was present at birth. No other members of the family were similarly affected, and no hereditary history could be obtained. Both soles and to less extent the palms were affected, the skin in those parts being thickened, deeply pigmented, and broken up by the lines of cleavage of the skin into a mosaic as described by Besnier (Kaposi's *Diseases of the Skin*, 2nd edit., vol. ii, p. 40). There was no erythematous border, however, around the thickened and pigmented area, which in the foot was notably accentuated in the site of the tread, the instep being comparatively free, the balls of the toes affected. There were also small circumscribed patches of symmetrical pigmented keratodermia on the

outer sides of the knees and the elbows, but nowhere else. There was no trace whatever of ichthyosis, the skin being elsewhere perfectly smooth and fine. The hair and nails were quite normal.

Dr. Pernet showed a section of *Melanosis cutis*. The sections were from a slowly growing Melanosis cutis. The pigment-cells were well shown, and an early epithelial degeneration could be seen.

Mr. J. E. R. McDonagh showed a case of a *mixed tumour* (*Tricho-epithelioma papulosum and syringo-cystadenoma*). E. D—, aged 48 years, housewife, came up to St. Bartholomew's Hospital, under the care of Dr. Adamson, to whom I am indebted for being allowed to show the case, with a patch of psoriasis on the right leg.

She was noticed also to have some pale, slightly raised nodules, about the size of a lentil, on her lower eyelids. When attention was drawn to these patient said that they were of no moment, gave rise to no inconvenience, and that she had had them for years. The mother and one sister had the same condition; three other sisters were free, and no male member of the family was affected.

Clinically, the diagnosis made was a form of Brooke's epithelioma adenoides cysticum or Jarisch's Tricho-epithelioma papulosum. A piece was excised for microscopic examination.

A section showed a benign circumscribed tumour, an adenoma of the lanugo hair-follicles and of the sebaceous glands. The cells of the lanugo hair-follicles were mature; the gradual transition from the stratum spinosum to the horny layer was complete.

In the centre lay a lanugo hair surrounded by a considerable amount of horny material, containing eleidin granules.

The sebaceous glands were embryonic, consisting of masses of epithelial cells, only few of which had become true sebaceous gland cells.

Around the adenoma was a considerable infiltration of both small round-cells and plasma-cells.

In cutting the block further down and staining some of the sections the appearance given above was completely altered. It showed an adenoma of the sweat-ducts, a syringo-cystadenoma. There were some small solid masses of epithelial cells, none of which branched.

There were also some small cysts, many of which were filled with colloid material, others quite empty, the wall of the cyst in every case being made up of two layers of cells. That part of the inner layer facing the cavity was hyaline in appearance. There was no membrana propria, but the cysts were surrounded by a layer of very fine spindle-cells with a long nucleus quite distinct from the connective tissue around.

These spindle-cells had been described several times, and were looked upon by most observers as being muscle to contract the sweat-ducts. Deeper down in the subcutis were the sweat-glands, which were quite normal in structure.

Here there was a case of a mixed tumour—a form of Trichoepithelioma papulosum on the one hand, and a syringo-cystadenoma on the other. The first section, in the exhibitor's opinion, differed only from the cases described by Brooke, Jarisch, and others in that the cells of the tumour were more mature, more benign, and if one could speak of a cutting-off of epithelial cells, then the cells represented in the section could be said to have been cut off at a later date in embryonic life than those represented in Brooke's and others' cases. In Brooke's cases, for instance, none of the epithelial cells had become transformed into true sebaceous gland-cells, and the epithelial cells surrounding the lanugo hairs did not show the transition forms from the stratum spinosum up to the stratum corneum as one saw in normal epidermis.

The name tricho-epithelioma did not mean malignancy, since the term "epithelioma" was used on the continent for any collection of epithelial cells, innocent or malignant.

The great peculiarity of this tumour was its mixed character; its further significance was that it formed a link and connected all the cases from those first described by Kaposi under the name of Lymphangioma tuberosum multiplex, then Jacquet and Darier's Hydradénomes eruptifs, the Cellulomes épithéliaun éruptifs of Quinquaud, the Hæmangio-endothelioma of Jarisch, the Endothelioma tuberosum colloides of Kromayer, the Nævi cystepitheliomatosi disseminati of Gassmann, and the Acanthoma adenoides cysticum of Unna.

Dr. T. D. Savill showed a case of *Acroteric scleroderma.* The patient was a woman, aged 56 years, who had coldness of the extremities, and to some extent of the nose. The condition had come on during the last two and a half years. Her mother was subject to angio-neurotic œdema, and died after an attack in the throat; and the patient was much afraid of similar attacks coming on in herself. A third generation, *i.e.* the patient's daughter, was also subject to attack of angioneurotic œdema, showing a distinct family strain. The patient presented three evidences of that vaso-motor neurosis. Alternating with the angio-neurotic attacks she had been subject, almost throughout life, to obviously migrainous attacks, the headaches lasting twenty-four hours at a time. Thirdly, she had been subject from time to time to what she called "burning patches" (patches of transient erythema) on different parts of her body. At the present time all four extremities were in a hide-bound condition, but the feet were less affected than the hands. The case had been shown before the Clinical Section,* but Dr. Savill believed it would interest the members of this Section also. He had tried many things, including ergot, calcium lactate, thyroid extract, fibrolysin, massage, galvanism, pituitary body tabloids, and salicylate of soda, without effect. Latterly she had had a continuation of the massage, and one of the complex iodine bodies, viz. periodo-tetrahydro-paramethyloxychinolin periodide, 5 gr., thrice daily. Under this treatment she had at first seemed to improve, but she had not done quite so well lately. With regard to the pathology of the condition, it was, in his belief, a toxo-angioneurosis, *i.e.* a vaso-motor instability chiefly referable to the ends of the extremities, associated with some toxin, which, circulating through that part of the extremities where the blood-stream was slowest, had more effect in causing a sclerosis of the tissues. He had not found any gastro-intestinal derangement.

The PRESIDENT said he did not regard it as a case of the classical sclerodermia. The hands were suggestive of it, but the limbs were in a state of chronic doughy œdema, and the skin was not involved in the sclerodermic process.

Dr. PRINGLE did not wish to traverse Dr. Savill's diagnosis, but the case was certainly not a typical one of sclerodermia. The induration appeared to him to be subdermic rather than dermic, and the tips of the fingers were quite soft to palpation. Dr. Pringle had, however, himself observed some cases beginning in a similar manner and ultimately eventuating in fairly typical sclerodermia; and in a certain number of these cases the initial phenomena was paroxysmal and of the nature of angio-neurotic œdema.

Dr. PERNET said such a case was likely to go on to true sclerodermia. He considered it came into the category of sclerodactylia of Ball.

Dr. JAMES GALLOWAY said that he would suggest to Dr. Savill if it were possible that a histological examination of a small portion of the skin might be made in order to ascertain the condition of the small cutaneous blood-vessels. This patient did not present the lesions of complete sclerodermia, but rather the firm and constant œdema resembling cases of Œdema neonatorum, depending on "angio-neurotic" lesions of unascertained nature, but from which recovery was possible. It was true, however, that in the early stages of generalised sclerodermia, before the characteristic "sclerodermia" had developed, the state of the patient could with difficulty be distinguished from certain stages of Raynaud's disease. The histological examination might show in this case whether the remarkable arterio-sclerotic changes so noteworthy in the case of true sclerodermia had developed in this case or not. If they were not found the patient's condition might be held to be the result of vascular changes affecting the larger arteries, and not necessarily of organic character, rather than the permanent condition of condensation of the skin (sclerodermia) in which arterio-sclerosis of the small cutaneous vessels was a feature of such prominence and indicated an unfavourable prognosis.

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* April 30th and November 12th, 1909.

Dr. PERNET, answering Dr. Galloway, reminded Dr. Colcott Fox of a case he (Dr. Fox) had seen at Fulham Infirmary years ago, and diagnosed as one of Raynaud's disease. When Dr. Pernet saw the case several years later the condition had become distinctly one of sclerodermia of the sclerodactylia type. Dr. Pernet had observed other cases go on much in the same way.

Dr. SAVILL, in reply, said the name "sclerodermia" was not the one he really sent in, but "acroteric scleroderma" (a name given to the affection by Sir Jonathan Hutchinson), and he had intended asking whether he was justified in regarding this histologically as the same change as ordinary sclerodermia, like that met with in cases of morphœa. In favour of that view was the fact that at one time the patient had a patch of sclerodermia on the clavicle, the remnants of which could now be seen.

Dr. J. H. SEQUEIRA showed two cases of *Mycosis fungoides*, which presented quite different aspects of the disease. In the first the mycosis tumour was single, and in the second the greater part of the cutaneous surface was affected.

CASE 1.—W. P—, aged 56 years, a railway guard living at Enfield, attended the London Hospital for the first time on October 14th, 1909. The patient was married but had no children. The wife had had no miscarriages. There was no history or evidence of syphilis. Until four years ago the patient had enjoyed good health. Since 1905, however, there had been severe itching all over the body, sometimes chiefly in one part and sometimes in another. The pruritus was so intense that the patient could not forbear scratching. Scratching always increased the itching. He had never noticed any skin eruption except the lesions to be presently described. Twelve months ago he detected two dark brown patches on the skin of the lower part of the back, both together covering an area of about a crown piece. These lesions were described as looking at first "like bruises." Later they became raised and formed lumps, and the colour changed from a brownish tint to red. The lumps itched "terribly."

On admission to the hospital the patient's general health was good, and there was no evidence of visceral disease. Between the twelfth rib and the crest of the ilium there was a swelling beginning one inch to the left of the spine and extending transversely for three and a half inches, and measuring vertically two inches. The colour of the lesion was reddish-brown; its outline was irregular and its surface lobulated. It stood out above the surrounding skin for about three quarters of an inch in the centre. The swelling was moderately hard, and moved freely on the deep structures. The skin rround the tumour was pigmented. To the outer side and below it there was a flat ovoid plaque of pinkish colour, about an inch in its long diameter. This area on palpation gave the impression of infiltration.

Factitious urticaria had always been present.

The patient had had four pastille doses of X-rays at intervals of a week, and when shown at the meeting the tumour was decidedly flatter, less nodular, and the inner margin less defined. The pigmentation of and around the swelling had distinctly increased under the X-ray treatment.

There had been no obvious enlargement of the lymphatic glands. A blood examination was made by Dr. Panton, who reported as follows:

	October 14th.	December 14th.
Erythrocytes	5,500,000	5,612,000
Hæmoglobin	90 per cent.	95 per cent.
Colour index	0·8	0·9
Leucocytes	9000 per c.mm.	10,000 per c.mm.
Polynuclear neutrophiles	83 per cent.	78 per cent.
Eosinophiles	0 ,,	0 ,,
Small lymphocytes	9·5 ,,	14·5 ,,
Large lymphocytes	5 ,,	3 ,,
Large hyaline cells	2·5 ,,	3·5 ,,
Transitional cells	0 ,,	0 ,,
Coarsely granular basophiles	0 ,,	1 ,,
	100 per cent.	100 per cent.

Case 2.—George C—, aged 58 years, caretaker, admitted to the London Hospital November 13th, 1909.

The patient lived near Salisbury. He had been married twice. His first wife had died of phthisis. The second wife had had no children. There was one healthy child by the first marriage. The patient had good health until five years ago when he began to suffer from "eczema." The eruption had appeared in patches, and for the past eight months the whole of the cutaneous surface had been affected. In September, 1909, that was only two months before the photograph reproduced was taken, a number of swellings appeared first on the head and neck and later on the trunk and extremities. The patient complained of great irritation, which was worse during the "eczematous" stage. On admission the condition was obviously grave. The patient, though cheerful, appeared distinctly ill, though there was no pyrexia. The whole of the skin was erythematous and in parts evidently infiltrated. An enormous number of lobulated nodules were present, chiefly on the head and neck, in the axillæ, across the chest, and on the thighs and groins. Scattered tumours were also present on the back. The majority of the lesions were half an inch to one inch in diameter, and about a quarter to one third of an inch above the surface. Many of them had a remarkably bossy surface. The lesions were dry except upon the face and scalp, where there was an eczematous exudation. The buccal cavity was not affected. The lymphatic glands were not obviously enlarged. The urine showed no abnormality.

Blood Examination (*Dr. Panton*).

Erythrocytes	5,650,000
Hæmoglobin	90 per cent.
Colour index	0·8
Leucocytes	9400
Polynuclear neutrophiles	68·8 per cent.
Polynuclear eosinophiles	2·6 ,,
Small lymphocytes	12·2 ,,
Large lymphocytes	8·2 ,,
Large hyaline cells	8 ,,
Transitional cells	0 ,,
Coarsely granular basophiles	0 ,,
Finely granular basophiles	0·2 ,,

When shown at the meeting the patient had already improved a great deal. The erythema was less in the upper part of the trunk and on the face, and some of the tumours were decidedly flatter. The upper part of the trunk and the head had been exposed to the X-rays, but no part had received more than two pastille doses in the month the patient had been under treatment.

Sections taken from one of the tumours showed the growth to consist of round cells, of somewhat varying size, in a reticulum. No giant-cells were met with in the sections observed.

The rapid evolution and extent of the tumour formation in this case were in great contrast to the localised lesion in Case 1.

Note.—In the report of the meeting of the Dermatological Section in November, published in the December issue of the Journal, on page 391, Dr. Pringle's remarks refer to Dr. Sequeira's case of tertiary syphilis.

THE SECOND INTERNATIONAL SCIENTIFIC CONGRESS ON LEPROSY, HELD AT BERGEN, AUGUST 16TH TO 19TH, 1909.

The choice of Bergen as the meeting-place of the Second International Congress on Leprosy was singularly happy, for it was in Bergen that some of the earliest and most scientific work on leprosy was done, and it was there that Armauer Hansen, the President of the Congress, discovered the leprosy bacillus and revolutionised the whole conception of the disease. The opening ceremony of the Congress, with the reception of the delegates, was performed by His Majesty King Haakon, who also presided at the dinner in the evening and graced the gala performance at the theatre with his presence. The Congress was of a highly representative character, official delegates being present from twenty-two countries, in addition to a large number of delegates from different medical scientific societies and institutions. After the official opening had taken place reports were read by a number of delegates on the state of leprosy in their respective countries. At this *séance* Kirchner described the precautions adopted against the disease in Germany. Jeanselme reported on leprosy in the French colonies. Petersen, of St. Petersburg, discussed leprosy in Russia. Dohi read a paper on recent prophylactic measures adopted against the disease in Japan; and Brinckerhoff, of Hawaii, described the state of leprosy in the United States and its dependencies, and the measures now being taken by the Goverment for the study and prevention of the disease.

The second *séance* was concerned with the causation of leprosy and was opened by Ehlers, of Copenhagen, by a short address on the "Transmissibility of Leprosy by Blood-sucking Insects." This possibility was suggested in 1904 by Goodhue, who claimed to have found bacilli in the bed-bug and the gnat. While admitting the possibility of infection taking place by these agents, Ehlers considered that it must be very rare, as bacilli, when present at all, only occurred in small quantities in the blood of the leper unless where a fresh crop of lesions had appeared shortly before death, and even then it was unlikely that the insect could ingest an appreciable number of bacilli, even by biting a fresh nodule. V. Düring read a paper on "Heredity as an Ætiological Factor in the Disease." He considered that there was no evidence of infection taking place *in utero* or of children being born lepers, but that the offspring of leprous parents were born with a predisposition to infection with leprosy and also tuberculosis, and that there was a high mortality among them. Sir Jonathan Hutchinson raised the question of the possibility of infection by the eating of fish, but the practically unanimous opinion of the Congress was that it was a hypothesis which so far was unsupported by scientific fact.

The third *séance* had under consideration the therapeutics of leprosy, and was opened by Deycke by an address on the "Treatment of Leprosy by Nastin Injections." "Nastin" is a neutral fat obtained by making an ethereal extract of a streptothrix which Deycke succeeded in cultivating from one or two cases of leprosy in Constantinople. This extract is mixed with benzoyl-chloride and injected. Deycke has claimed for it that when injected it causes a bacteriolysis, and in suitable cases a definite amelioration of the leprous symptoms. He does not consider that the streptothrix is the same micro-organism as the *Bacillus lepræ* but believes it to be allied to it. Consequently the injection cannot have a specific action. An interesting discussion followed in which a number of observers recorded their experience with the new remedy. In several instances their results have been disappointing, and several of the speakers considered that the employment of nastin was of doubtful value, and that a specific remedy for the disease has till to be discovered.

The next *séance* was devoted to the discussion on the pathology of leprosy, and was opened by an address by MacLeod dealing with the present position of our knowledge of the pathological anatomy and bacteriology of the disease. Meier, of Berlin, then discussed the serology, and Brinckerhoff contributed a paper on the "Complement Fixation Test in Leprosy."

The last *séance* had under consideration the prophylaxis and protective measures to be taken against the disease, and at the end of the meeting the following resolutions were passed.

(1) The Second International Scientific Conference on Leprosy confirms in every respect there solutions adopted by the First International Conference in Berlin in 1897. Leprosy is a disease which is contagious from person to person whatever may be the method by which this contagion is effected. Every country, in whatever latitude it may be situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself.

(2) In view of the success obtained in Iceland, Norway, etc., by the segregation measures adopted, it is desirable that lepers should be isolated, and placed under such conditions of life as can be voluntarily accepted by them.

(3) It is not desirable that lepers should be allowed to practise certain trades which bring them into close contact with healthy persons.

(4) It is desirable that the healthy children of lepers should be separated from their parents as soon as possible, and that they should remain under observation.

(5) An examination should be made from time to time by a competent physician of those who have lived with lepers.

(6) It is desirable that the question of the transmissibility of leprosy by insects should be elucidated, and that the possibility of the existence of leproid diseases among animals (rats) should receive further study.

(7) The clinical study of the disease induces the belief that it is not incurable, but that we do not at present possess a certain cure, and it is desirable to continue the search for a specific remedy with the greatest zeal.

Great Britain was officially represented at the Congress by Sir Malcolm Morris and Dr. Arthur Newsholme, Ceylon by Sir Allan Perry, Fiji by Dr. B. G. Corney, South Africa by Dr. C. F. Murray, the Transvaal by Dr. George Turner, British Guiana by Dr. J. E. Godfrey, and the secretary for Great Britain was Dr. J. M. H. MacLeod. The most important and far-reaching result of the Congress was the final recognition that leprosy is a contagious disease, and that although the manner in which the contagion takes place is uncertain in the majority of cases and the contagiosity is slight under most conditions, still, the fact that it is contagious is a real danger and should never be forgotten.

All credit is due to Dr. H. P. Lie, the general secretary, whose indefatigable labours resulted not only in rendering the Congress a success and its deliberations and conclusions of the first importance, but in making every member of it feel that it was good to have been there.

CURRENT LITERATURE.

REPORT OF SOME CASES OF LUPUS ERYTHEMATOSUS. M. F. ENGMAN and W. H. MOOK. (*Interstate Medical Journal*, April, 1909, p. 267.)

In describing a series of cases of Lupus erythematosus to illustrate some of the unique phases of the disease, the authors refer to the view, taken by several English writers, that the disease is a process which frequently follows a preceding chronic inflammation in an individual with an enfeebled circulation.

The first and most interesting case was one in which Lupus erythematosus was associated with Raynaud's disease and psoriasis. The patient presented an eruption of twelve years' duration on the nose, sides of cheeks, and scalp. On each cheek and spreading over the ears, were large, scaly, red patches, containing atrophic areas. The centres of these patches were redder than the periphery. Over the scalp were disseminated lesions, varying in size from a dime to a dollar, and in all respects similar in character to those on the face. The patient remained in the hospital for some weeks without marked improvement. Two years afterwards he again appeared, suffering from a general eruption which had begun two months previously. Upon examination the eruption was found to involve the entire body, and was typical in every feature of an Eczema seborrhoicum psoriasiformis.

Upon the patient's second visit to the hospital a bandaged foot was noticed, the history of which was as follows : Three years ago, while running down stairs, the patient stumbled and sprained the foot ; from this he recovered quickly, but two months later a second accident of the same nature occurred. From that date the part was tender, swollen, and difficult to walk upon. Finally, in a month or so, the first, second, and fifth toes turned a bluish-black colour, and the condition was pronounced by the attending physician to be a "frost-bite." No operation was performed. In the course of three months, these toes amputated themselves by a slow process of dry gangrene, without pain, ulceration, or marked inflammatory symptoms. Later the last phalanx of the third toe began to show the bluish-purple colour, which gradually spread down the toe to the foot, when the fourth toe also underwent a like change. On entering the hospital at this time, the foot, from just anterior to the instep forward, had a mottled bluish-purple colour, and was clammy to the touch. There was slight œdema, but not marked inflammatory symptoms. The first, second, and fifth toes were missing. The third toe was swollen, club-shaped, and of a deeper purple than the foot. At the junction of the third and second phalanx, was a small ulcer of a crateriform shape, indolent and painless. The fourth toe presented no ulceration, but was congested in appearance. After some weeks of treatment with various local and internal remedies, including active anti-syphilitic medication, there was no improvement. Amputation was recommended, therefore, and performed. The wounds healed and the patient had no further trouble of this nature. The right foot was never affected.

The second case illustrated the association of Lupus erythematosus and psoriasis, and the third that of the same disease with Dermatitis venenata, the latter apparently having been the starting-point of the erythematous lupus.

The fourth case was one of Lupus erythematoides, reported to show the difficulty of diagnosis between this and certain types of syphilis, as in Case 5, in which an erythemato-squamous syphilide was mistaken for erythematous lupus.

Case 6 was a case of an extremely superficial type of the disease simulating a mild seborrhoic dermatitis.

The writers are of the opinion that Lupus erythematosus expresses some constitutional derangement, which is most marked in the acute, fulminating, disseminated types of the disease, which show, coincidentally, signs of visceral involvement. These cases present the picture of some constitutional toxic syndrome in its albuminuria, fever, rigors, etc., and are somewhat similar to severe types of the "erythema group" of Osler. In these incidents there may be a very striking analogous chain of symptoms in the erythematous lesions, involvement of the mucous membranes and visceral complications.

The modern study of Lupus erythematosus undoubtedly points to some constitutional derangement or toxæmia as its cause. This may be, however, in many cases only of a predisposing nature, and the fixing of a chronic inflammatory process called "Lupus erythematosus" may necessitate an external or exciting factor, like an erysipelas, burn, trauma, frost-bite, exposure to heat, sun, wind, or an inflammatory disease, of which eczema may be taken as a type.

S. E. D.

A CONTRIBUTION TO THE STUDY OF LICHEN NITIDUS.

G. Arndt. (*Derm. Zeitschr.*, vol. xvi, H. 9 and 10.)

This disease was first described by Pinkus in 1901, and since then he has published altogether nine cases of the condition. One similar case has been published by Kyrle from Finger's clinic, and two by Lewandowsky, from Bern. These, however, were the only ones recorded in the literature up to the date of the present article, although the present writer recognised a case in the Hospital of St. Louis at Paris as falling into this category while on a visit there in 1904. He now publishes no less than thirteen additional cases with a complete clinical and histological description of each. As a single observer has been able to collect so large a number of cases it is probable that the condition is not particularly rare. The fact that it has only so recently and so seldom been described is no doubt due to the circumstance that it gives rise to no subjective symptoms whatever, and all the cases have only come under observation while being treated for other complaints.

Lichen nitidus is an eruption of disseminated papules, sharply margined, but little raised above the level of the surrounding skin, roughly circular or polygonal in shape, in colour the same tint as the skin, or at the most of a pale red or yellowish-brown, and in size almost perfectly uniform with one another.

In the centre of a nodule a fine aperture can often be perceived. The papules never coalesce to form larger plaques, nor do they show the slightest tendency towards grouping, the formation of rings, or localisation round follicles. They may sometimes, after the lapse of years, during which they have remained unaltered, ultimately disappear without leaving the smallest trace behind them. The favourite sites for the appearance of the eruption are the skin of the genital organs, that of the abdomen in particular, the neighbourhood of the navel, the palms of the hands, and the flexures of the elbows. As to the histological characteristics of the eruption, they are, briefly, a sharply limited, sub-epithelial infiltration in the most superficial layers of the cutis, of a structure resembling that of a tubercle. There are also alterations of the epithelium which vary somewhat in different cases, and even in different nodules of the same case. Dr. Arndt finds that the most striking feature of the histology of the eruption is the frequent occurrence of giant-cells; this naturally suggests a tuberculous ætiology for the disease, but investigation lends no colour to this explanation of the condition. In none of the nodules which Dr. Arndt examined—and he cut serial sections of no less than 148—was he successful in finding tubercle bacilli. In one case tubercle was tested for both by animal inoculation and by the tuberculin reaction, but with negative results. In addition to the giant-cells there occur epithelioid cells and mononuclear round-cells in the infiltration. The epithelioid cells are often pigmented. It is only in the old-standing nodules that the tubercle-like structure is marked, and in these, unlike true tubercles, there are a fair number of blood-vessels. In recent nodules there is merely a round-celled infiltration. Between the epithelium of the skin and the infiltration in the cutis there is often a gap of some size. The epithelium is often thinned over a nodule, and some degree of parakeratosis is not unusual. All these points are well shown in the plate which illustrates Dr. Arndt's paper.

As regards the diagnosis of the disease the condition with which it is most nearly allied is of course Lichen ruber planus, and it has also to be differentiated from multiple flat warts and folliculitis of the penile skin. From the two latter the diagnosis is not difficult; flat warts are easily removed by scraping, while to remove a nodule of Lichen nitidus one must go far deeper and smart hæmorrhage is caused. In folliculitis the papules are yellowish, and in the middle of each is to be seen a large horny plug and occasionally a hair. Two more conditions with which Lichen nitidus is liable to be confused should also be mentioned, namely, the flat form of Lichen scrofulosorum and a lichenoid syphilide, but these should be easily differentiated by their follicular localisation and by their tendency to grouping and the formation of rings. The diagnosis from Lichen ruber planus is not so easily made. The question of sex distribution is important, for while up to the present only one case of Lichen nitidus has been described in the female, Lichen planus is at least as common in the female as in the male sex. In those cases, too, of Lichen nitidus where the eruption is confined to the skin of the penis and scrotum there is not much difficulty, but when the eruption is widespread over the limbs and still more when it does not affect the genital organs (the most typical site) it may be very hard to decide clinically on the true nature of the eruption. The most vital points are the colour, the uniformity of the lesions, the absence of grouping and the absence of subjective symptoms. Histologically the most important point is that in Lichen planus the infiltration consists almost exclusively of mononuclear round cells mingled with a greater or less proportion of irregularly arranged fibroblasts, while the structure of a well-developed nodule of Lichen nitidus much resembles that of a tubercle with the distinction that the Lichen nitidus nodule is comparatively rich in blood-vessels. Other histological points are that in Lichen nitidus parakeratosis is more marked than in Lichen planus, that there are more pigmented cells, and that in Lichen nitidus it is quite exceptional for the nodules to be grouped round follicles or sweat-glands.

As regards the ætiology and pathogenesis of Lichen nitidus nothing is known.

H. D.

PELLAGRA, WITH REPORT OF CASES. J. M. King. (*Southern Med. Journ.*, November, 1908; illustrated.)

The author refers to a few recorded cases in the United States and alludes to its reported occurence in two State Hospitals for the Insane, and describes an outbreak of cases, diagnosed as pellagra, which he observed in an institution where forty-nine children resided. Of these, twelve were affected. The symptoms were a diffused erythematous eruption on the back of the hands, extending on some nearly to the elbow, on the face, especially about the cheek, also on the neck and shoulders. The tops of the feet and legs nearly to the knee were the seat of redness and some exfoliation. In old cases the skin was slightly thickened, and later still wrinkled and rough. In the latest case a small eruption of erythema was apparent on the feet only. In the spring, three years ago, one of the girls was out at play with a low-neck dress, and came in apparently badly burnt by the sun. This condition remained all the summer, but improved slightly in the fall. After a time the eruption got worse, a severe stomatitis occurred necessitating the removal of teeth, and a diarrhœa set in, which became aggravated and offensive. She died after eighteen months' suffering. Her brother and sister became affected, and then in the springtime nine other children became patients, and two of them were troubled with diarrhœa. One child had a fit. The outbreak seems traceable to one patient or one family. There is no report of any serious investigation to try and discover the cause of the outbreak. It is not made quite clear whether the first patient came to the home with the illness.

T. C. F.

AN UNUSUAL CASE OF LICHEN PLANUS OF THE MUCOUS MEMBRANE OF THE MOUTH. Max Joseph. (*Derm. Centralb.*, January, 1909, p. 98.)

In this article the writer records a curious case of Lichen planus on the mucous membrane of the mouth and penis in a man who had had syphilis, but who had undergone a thorough course of treatment and had afterwards married with the consent of the writer.

The patient, ten years after his infection with syphilis, complained of excessive pain in the tongue and was unable to take hot or spiced foods. After a few days there was an outbreak of typical Lichen planus spots on the glans penis, and a few spots appeared at the same time on the tongue. The lichen papules gradually disappeared, when suddenly there was an acute outbreak of Lichen planus papules on the mucous membrane of the mouth associated with fever. He was treated with arsenic, but he exceeded his dosage and an arsenic intoxication followed in fourteen days. When the arsenic was stopped the spots appeared again, but quickly vanished on returning to arsenic. A curious point noticed by the patient was that in the morning the spots were scarcely visible, while at midday they were prominent and began to disappear again in the evening.

D. F.

YAWS IN THE GILBERT AND ELLICE ISLANDS PROTECTORATES. Alexander Robertson. (*Trans. of Australasian Med. Congr.*, 1908, vol. iii, p. 145.)

According to the writer, yaws is very prevalent in the Gilbert and Ellice Islands, and is supposed to have been introduced there by natives returning from Samoa and Fiji thirty years ago. The writer made a bacteriological examination of pus from the papules of thirty cases and succeeded in finding the *Spirochæte pertenuis* of Castellani in twelve. Observing that large numbers of flies infested the houses of natives suffering from yaws, and were in frequent contact with the purulent secretions of the patients, experiments were made to ascertain whether or not flies were carriers of contagion. The patients were told to refrain from washing their lesions for some time, and to allow flies to settle on the secretions and then to catch them and place them in sterilised jars. The jars were filled with sterilised water and well shaken to wash off any bacteria adherent to the flies. Twenty-four hours later 10 c.c. of the water was centrifugalised and examined. In all the slides examined the same micro-organisms were found as occurred in the secretion, and in four specimens the *Spirochæte pertenuis* was observed. From this it was concluded that the house-fly was capable of carrying the virus on its body and limbs, and might in this way be responsible for the contagion. In addition to the spirochætes the writer observed a number of round bodies about three times the size of a pus-corpuscle, which he regarded as protozoa, and he suggested the possibility of their being the parent bodies of the spirochætes.

In discussing the differential diagnosis of yaws from syphilis the following points are tabulated among others:

(1) In yaws there is absence of sore throat, alopecia iritis, and the polymorphism

of the skin-affection so characteristic of syphilis. With the exception of a desquamative dermatitis, the writer has not seen any skin-lesion in yaws other than the characteristic papular eruption.

(2) Gummata, nodes and periosteal thickenings are absent in cases of yaws, but occur in abundance in syphilitic subjects among the Gilbertians.

(3) Yaws is never congenital.

(4) Yaws occurs in those who are syphilitic and who have the scars of old syphilitic lesions on their bodies.

(5) A second attack of yaws is not uncommon.

(6) The primary sore in yaws is extra-genital.

(7) The inoculation of syphilitic monkeys with the virus of yaws is followed in due course with the development of the latter disease.

The treatment found most effective was to wash the patients twice daily with carbolic soap and afterwards rub in dilute nitrate of mercury ointment. Internally iodide of potassium was prescribed in doses from two to twenty grains thrice daily, according to the age. Under this treatment the cases were cured in about five weeks.

J. M. H. M.

REVIEW.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION: THIRTY-SECOND ANNUAL MEETING.

Official Report of the Proceedings by GROVER W. WENDE, M.D., *Secretary.*

THE Thirty-second Annual Meeting of the American Dermatological Association was held in Annapolis and Baltimore in September, 1908. The official report of the proceedings by Grover W. Wende forms an important addition to the dermatological literature of the year. As many of the papers there presented have already been published in the *Journal of Cutaneous Diseases* and abstracts of a number of them by Dr. Colcott Fox have appeared in this Journal, it will be unnecessary to do more than refer briefly to the subjects discussed at the meeting as an indication of the excellent work which is being done by this Society for the advancement of this special branch of medicine. The President of the Society for the year was Dr. Arthur van Harlingen, of Philadelphia. The Conference was opened on September 24th by a paper by A. R. Robinson entitled "Observations on some Cutaneous Cyst Formations and an Unusual Disease of the Hair-Follicle." In it the writer divides the cysts of the pilosebaceous system into horn-cysts and mixed or sebum cysts, according to the comparative preponderance of horn-cells and sebum in individual cases. He considered that there was not sufficient evidence that the so-called acne bacilli caused the comedo and the hyperkeratosis of the neck of the follicle, but thought the curled-up hairs in the follicles might be the cause of irritation which produced the hyperkeratosis, or that it might begin deep down in the follicle from some unknown cause, perhaps changed sebaceous material. He regarded the invasion of the acne bacillus as secondary. He described a case in which sebaceous cysts were present with the exact structure of the acne comedo but in which organisms were absent and inflammation did not occur. With regard to milium he did not agree with those who described it as a retention cyst of the sebaceous gland, but believed it to be a horny structure made up of concentrically arranged horn-cells, possibly primarily connected with a pilo-sebaceous follicle, and that some of them had an origin like dermoid cysts, being due to an aberrant developmental process.

Dr. J. Nevins Hyde then read a paper on "Congenital Alopecia as an Expression of Atavism"; Dr. E. Wood Ruggles discussed "Eczema of the Toes"; Dr. Corlett contributed a paper on "Parapsoriasis; a Resistant Maculo-Papular Erythrodermia, with a Report of Three Cases, together with Pathological Histology"; Dr. A. Schalek reported a case of "Nævus unius lateris" in a girl, aged 9 years, the nævus being noticed on the left heel and left knee at birth, and afterwards breaking out in different parts of the left side of the body.

A case of Xanthoma diabeticorum and Lipoma multiplex and a case of xanthoma approaching the diabetic type with diabetes insipidus were recorded by Dr. Allen Pusey and Dr. O. P. Johnstone, after which an interesting discussion took place. Johnstone, in his histological report of the cases, noted in both a hyperplasia of the connective tissue of the corium, with proliferation of the endothelium and a moderate fatty infiltration. In the case of Xanthoma diabeticorum there were evidences of an acute process, while in the xanthoma lesion of diabetes insipidus the process appeared to be more chronic. He considered that any difference which occurred in the histological picture in the two cases was caused by a difference in duration and acuteness of the two processes. In this view he was supported by Pollitzer, who believed that there was no essential difference between the xanthoma of diabetics and that observed in non-diabetics. He considered the skin-lesion to be the result of "some disordered metabolic process, perhaps, in the course of which there was deposited in the tissues some crystalline body which acted as a provocative agent for a connective-tissue growth, which subsequently underwent fatty degeneration and presented itself as xanthoma."

Dr. Jay F. Schamberg reported an extensive case of acnitis in a man, aged 30 years, affecting the face. The lesions consisted of papules and tubercles, and varied in size from a minute pin-head to a pea. The lesions were brownish-red in colour, some having a waxy appearance, others undergoing a central necrosis. On histological examination an architecture suggestive of tuberculosis with numerous giant-cells was observed. Tubercle bacilli were not found in the sections; tuberculin tests gave negative results, and inoculation experiments on guinea-pigs were negative. From these facts Schamberg considered that there was little basis for regarding the disease as being of tuberculous origin, and he regarded it as a disease *sui generis* and different from "folliclis."

Dr. J. A. Fordyce described "A Chronic Itching Papular Eruption of the Axillæ and Pubes: its Relation to Neurodermatitis." This he regarded as belonging to the same group as the "névrodermites" of Brocq. He considered it possible that it might be the result of the elimination of some toxic substance or be induced by the repeated traumatism to which the epidermic cells are subjected from scratching. He noted that the affection always began with intense pruritus, the cutaneous lesions following as a direct consequence.

Dr. J. M. Winfield read a paper on "Pemphigus and Bullous Dermatoses and

Notes on some Personally Observed Cases." Dr. Pollitzer described a case of "Cancer *en cuirasse*"; and Dr. T. C. Gilchrist discussed the "Ætiology of Acne Vulgaris," in which he claimed to have obtained very marked improvement from treatment with a vaccine of bacillus-acnes, and regarded the bacillus as the primary cause of true Acne vulgaris, especially of the nodular type, and the *Staphylococcus albus* as a secondary invader. With regard to the important question of the *rôle* of the comedones in these cases he expressed no opinion.

On the second day of the Conference Dr. M. B. Hartzell and Dr. C. J. White read papers on "Modern Dermatological Pathology as related to Practical Therapeutics"; Dr. J. Zeisler contributed his "Observations on the Use of Liquid Carbon Dioxide," and emphasised its value in the treatment of Lupus erythematosus, vascular nævi, moles, and warts. Dr. A. P. Biddle read a paper on "Syphilis in its Relation to General Paralysis of the Insane." Dr. Francis J. Shepherd reported "On some Eruptions occurring after Abdominal Operations"; Dr. Ravogli discussed "Tuberculides in Relation to General Tuberculosis"; Dr. Burnside Foster reported cases of "Chronic Persistent Œdema of the Face; Elephantiasis following Dropsy; the Result of Excessive X-ray Dosage in the Treatment of Acne; Mycosis Fungoides"; and Dr. S. W. Wende described a case of "Keratosis Follicularis resulting in Multiple Epithelioma."

The third day of the Congress was occupied by a demonstration of interesting cases, which took place at the Dispensary of the Johns Hopkins Hospital at Baltimore, among which were a case of Xeroderma pigmentosum, three cases of multiple telangiectasis, associated with recurring hæmorrhage from the nasal and buccal mucous membrane, a case of Acne necrotica, and a case of "Keratosis pilaris in groups."

J. M. H. M.

LIST OF BOOKS, PAMPHLETS, ETC., RECEIVED.

From Urban & Schwarzenberg, Berlin and Vienna, 1909. *Der Varicöse Symptomencomplex* (*Phlebectasie, Stauungsdermatose, Ulcus cruris*). By G. Nobl. Price 10*m*.

From Ch. Boulangé, Paris, 1909. *Le Massage Plastique dans les Dermatoses de la Face.* By Raoul Leroy.

From J. B. Baillière et Fils, Paris, 1910. *Traitement des Dermatoses par le Radium.* By Masotti and Danlos.

Transactions of the American Dermatological Association, Thirty-second Annual Meeting, September, 1908. Official Report of the Proceedings by Grover W. Wende, Secretary.

From Julius Springer, Berlin, 1909. *Die Serodiagnose des Syphilis.* By Carl Bruck. Price 4.80*m*.

From Vigot Frères, Paris, 1910. *La Photothérapie.* By Leon Friedmann. Price 3*fr*.

From Georg Thieme, Leipzig, 1909. *Die Gonorrhœa des Mannes und ihre Komplicationen.* By Hans Wossidlo. Price 12*m*.

From Messrs. Cassell & Co., London, 1909. *Syphilis.* By Sir Jonathan Hutchinson. New edition. Price 10*s*. 6*d*.

THE BRITISH
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FEBRUARY, 1910.

CHRONIC PURPURA OF TWO YEARS' DURATION CONNECTED WITH MALIGNANT ENDOCARDITIS, WRONGLY SUPPOSED TO BE CONNECTED WITH SPLENIC ANÆMIA.

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, London.

The patient was a sailor, aged 28 years, who had visited South Africa several times, and had often been in the Mediterranean and the surrounding countries. He had had a short attack of jaundice without colic about five years ago. About a year later he contracted malaria when in the Straits Settlements, and he had had two slight recurrences since then. He stated that he had had gonorrhœa twice (when 20 and when 21 years of age), but never syphilis. In the harbours he used to drink much spirits and beer. He married at 24 years, and had one child, who was living and healthy, aged 2 years. His parents were said to be healthy, and there was nothing special in his family history.

He thought that the present illness had commenced about two years ago, when purpuric spots appeared on both legs. From that time he had gradually become weaker and paler, and had noticed an increasing swelling (evidently the spleen) in the left side of his abdomen. There had been occasional oozing of blood from the gums and slight epistaxis. He had been treated at several London hospitals, where apparently the diagnosis of splenic anæmia was made.

I am much indebted to Dr. H. G. Turney and Dr. G. G. Butler for notes of the case when he was at St. Thomas's Hospital, August to October, 1908. His spleen was then much enlarged, its lower limit reaching a level of half-way between the umbilicus and pubes, the splenic dulness extending upwards to the seventh rib in the axillary line. The liver was definitely enlarged. The apex-beat of the heart was felt in the fourth intercostal space, ½ in. external to the left nipple line. The cardiac dulness reached from the apex-beat to the mid-sternal line and upwards to the third space. There was a fairly well-marked apical systolic murmur conducted into the axilla, and there was likewise a systolic murmur at the base best marked over the "pulmonary area." Treatment by arsenic was continued throughout his stay at St. Thomas's Hospital. Blood-examinations gave the following results :

	August 14th, 1908.	September 23rd, 1908.	October 8th, 1908.
Red cells (per c.mm. of blood)	5,625,000	3,600,000	3,268,000
Hæmoglobin	50 per cent.	50 per cent.	60 per cent.
Colour index	0·4	0·7	0·9
White cells (per c.mm. of blood)	2840	1740	1360
Differential count of white cells.			
Neutrophile polymorphonuclears	27 per cent.	28 per cent.	26 per cent.
Small lymphocytes . . .	58 per cent.	57·5 per cent.	41·5 per cent.
Large lymphocytes . . .	8·5 per cent.	9·5 per cent.	27 per cent.
Large hyalines . . .	5·5 per cent.	4·5 per cent.	5 per cent.

In the German Hospital (admitted on July 1st, 1909) the patient was extremely pale, weak, and wasted. Both legs below the knees and the lower inner aspects of the thighs were covered with spots of brown pigment. This remarkable brown pigmentation was evidently the result of repeated spots of hæmorrhage into the skin, for amongst the pigment-spots were some fresh red petechiæ. On the arms and trunk there were likewise a few petechiæ. The ankles were œdematous. There was a tendency to bleed from the gums. The heart was somewhat enlarged, the impulse was forcible, and the apex-beat could be located in the fifth intercostal space just outside the nipple line; there was a systolic apical murmur. On auscultation over the lungs a few dry bronchitic sounds were heard. The spleen was greatly enlarged and hard; it reached to the umbilicus on the right, and downwards into the inguinal region. The liver was likewise enlarged and hard, its lower edge being felt at the umbilical level. Ophthalmoscopic examination showed a few retinal hæmorrhages (Dr. R. Gruber), and there were some conjunctival petechiæ. The urine contained a little albumen, some granular and epithelial tube-casts, and afterwards a little blood and some blood-casts. There was no evidence of active malaria.

Blood-examinations :

	July 1st and 2nd, 1909.	July 19th, 1909.
Red cells (per c.mm. of blood) . .	1,700,000	1,700,000
Hæmoglobin	30 per cent.	35 per cent.
Colour index	0·9	1·03
White cells (per c.mm. of blood) . .	1900	1200
Differential count of white cells.		
Neutrophile polymorphonuclears . .	63·5 per cent.	58·0 per cent.
Lymphocytes	29·5 per cent.	26·0 per cent.
Intermediates	4·0 per cent.	8·0 per cent.
Large hyalines	2·5 per cent.	7·0 per cent.
Eosinophiles	0 per cent.	1·0 per cent.
Mast-cells	0·5 per cent.	0 per cent.

For these differential counts I am indebted to the kindness of Dr. A. E. Boycott, who added that no nucleated red cells were found. Amongst the erythrocytes were oval forms. Very little polychromatophilia. The coagulation-time of the blood, as estimated on July 21st by Dr. Engelsmann with Sir A. E. Wright's coagulometer, was as much as about thirty minutes.

I accepted "splenic anæmia" as the clinical diagnosis, and the patient was treated with an arsenic preparation. He likewise received orange juice, but on July 19th I prescribed calcium lactate on account of the hæmorrhagic tendency. The pulse was usually 100 to 110 per minute. The systolic brachial blood-pressure (July 26th) was 105 mm. Hg. During the first ten days in the hospital his temperature was often raised (up to about 101° F.), but after July 10th there was seldom any fever. On the day before the patient's death, which occurred on July 29th, there was, however, again slight fever. Towards the end there was considerable œdema, with bronchitic signs and œdema.

Necropsy (About Half-a-day after Death).

The *brain* (weight, 51 oz.) showed nothing special, except the small cystic remnant of an old hæmorrhage above the front part of the internal capsule on the left side.

The *heart* was large, weighing 21 oz., and the left ventricle was hypertrophied. The cardiac musculature was very pale. There was old thickening of the mitral valve, and adherent to one part of the valve was a soft, organised thrombus of about the size of a hazel-nut. In the left auricle, and apparently growing from the inter-auricular septum, was a large polypoid excrescence, which measured about 70 mm. in length and about 35 mm. in breadth. It was attached by a short, circular pedicle, about 7 mm. in diameter, to a spot on the inter-auricular septum,* about half-way between the thrombus on the mitral valve and the (closed) foramen ovale. The free end of this polypoid excrescence, which was evidently an old organised thrombus, was opaque, white and hard, its surface feeling as if it were partially calcified. No other valvular or endocardial disease was observed.

The lungs showed some recent bright-red pleural petechiæ at their bases. There was a moderate amount of serous effusion in the left pleura.

There was likewise some ascites.

The spleen was very large, and, together with a small splenculum, weighed 110 oz. There were several subcapsular (non-suppurative) anæmic infarcts, some of which were connected by peri-splenitic adhesions to the surrounding parts. On section the substance of the spleen (and also that of the splenculum) had a milky-red appearance and was rather friable.

The liver was large and hard, weighing 156 oz. The capsule was roughened at parts, and there were some peri-hepatitic adhesions. There were many bright-red recent petechiæ in the capsule. On section the substance of the liver suggested fatty infiltration and chronic passive congestion, together with some increase of fibrous tissue. The gall-bladder and bile-ducts showed nothing special.

The kidneys (weight together 17 oz.) were large and rather pale; the cortical substance was not diminished and the capsules stripped readily. Petechiæ were noted in both renal pelves. In the right kidney there was a non-suppurative embolic infarction.

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* It is interesting to note how frequently in cases of chronic malignant endocarditis the polypoid or warty excrescences are attached, not to the valves, but directly to the auricular or ventricular walls. Similar excrescences are sometimes found attached to the walls of the aorta or pulmonary artery beyond the valves (*vide* Fürth and F. Parkes Weber, "A Case of Malignant Pulmonary Arteritis after Gonorrhœa," *Edin. Med. Journ.*, July, 1905, p. 33).

There were petechiæ in the mucous membrane of the stomach, ileum, and cæcum, confluent in part of the ileum and cæcum. Some of the lymphatic glands near the hilum of the spleen were enlarged. The splenic and portal veins were very large, but otherwise nothing abnormal was found in the abdominal veins or arteries. The bone-marrow of the shaft of the left humerus was examined and found to be quite red.

Microscopic Examination.

For this I am indebted to Dr. J. C. G. Ledingham, who examined sections of the spleen, liver, kidney, and a piece of the bone-marrow from the middle portion of the shaft of the left humerus. He kindly gave me the following report:

Spleen.—The capsule is considerably thickened, and there is some fibrosis of the splenic reticulum immediately subjacent. Otherwise there is little evidence of increase in the trabecular system except in the adventitial sheaths of the follicular arteries (? so-called "fibro-adénie" of Banti). A few Malphigian nodes remain, and in these the lymphoid cells are quite healthy. No karyorrhectic foci present. In the spleen-pulp, which shows much congestion, are large numbers of plasma-cells, lying mainly in rows or in small groups in the neighbourhood of larger trabeculæ and the adventitial sheaths of the follicular arteries. These plasma-cells are evidently taking part in the new fibroblastic formation pervading the pulp and proceeding from the margins of the larger trabeculæ. There are a few small foci of normoblasts. The polynuclear cells in the pulp are much increased, but there are no purulent foci. Megakaryocytes are very numerous. No micro-organisms seen.

Liver.—The most marked features are the cellular infiltrates in the portal spaces. There is no coarse fibrosis of the organ, but around each portal vein in the portal space there is thickening of the adventitia, with prolongations extending outwards and enclosing in its meshes young fibroblasts and large numbers of plasma-cells. In some parts this plasma-cell infiltrate extends slightly into the adjoining lobule (this condition is essentially analogous to that in the spleen-pulp). There is some "cyanosis" of the organ, with fatty infiltration. The inter-acinous capillaries contain fairly numerous polynuclear cells and occasionally megakaryocytes.

Kidney.—There is no coarse cirrhotic process, but in some parts marked fibroblastic proliferation is present, causing atrophy of groups of tubules. Plasma-cells are also present, namely, in the neighbourhood of the adventitial sheaths. No micro-organisms seen.

Bone-marrow.—This tissue is extremely cellular and the fat-elements have disappeared. The cells are mostly plasma-cells. with small and large lymphocyte forms. Many mitoses are seen in the plasma-cells. Giant-cells are very numerous.

All four organs (spleen, liver, kidney, and bone-marrow) present as their most conspicuous feature a plasma-cell development, with the elaboration of new fibroblastic tissue.

Remarks.

In the first place it is interesting to know that the chronic purpura of two years' duration, which produced the remarkable brown pigmentation of the patient's legs, was due to a form of chronic malignant endocarditis. This form of endocarditis has been well described recently by W. Osler* and T. J. Horder† in the *Quarterly Journal of Medicine.* The pathogenic micro-organism which caused the disease in the present instance was not discovered.

The marked leucopenia and chronic splenomegaly seemed to point to a diagnosis of splenic anæmia or Banti's disease, but the post-mortem examination showed that the fatal illness (and the cause of the purpura and cutaneous pigmentation) was really the cardiac disease. Leucopenia is indeed no longer regarded as pathognomonic of splenic anæmia (or Banti's disease), for it is not rarely present in various conditions associated with chronic enlargement of the spleen; for instance, in some cases of chronic splenomegaly from malaria. In the present case the leucopenia appears to have preceded the actual anæmia (oligocythæmia), as far as one can judge by the blood-count taken on August 14th, 1908.

I am not sure that splenic anæmia (of adults) should be regarded as a distinct disease. Certainly I have not seen any case myself which has been convincing in this respect. Perhaps "splenic anæmia" is nothing more than a group of symptoms which may be set up by various pathogenic agencies. Not only are there cases of congenital or acquired chronic acholuric jaundice (in which the jaundice is very slight*) with splenomegaly and anæmia, which might be wrongly regarded as examples of "splenic anæmia"; but in many cases of supposed splenic anæmia and Banti's disease a necropsy has given evidence of considerable vascular or endocardial disease, very probably of infectious origin. Thus, in one of the earlier fully described cases in England, that published by Dr. S. West† (at the post-mortem examination on which I happened to be present), there was evidence of considerable old disease of the aortic valves of the heart, and the patient had a septic pyrexia at the end. In several cases of "splenic anæmia" thrombotic obstruction of the splenic and portal veins (cases of Dock and Warthin, 1904, Oettinger and Fiessinger, 1907, F. Dévé, 1908, etc.) or disease of the splenic artery has been found.

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* *Quart. Journ. Med.*, Oxford, 1909, vol. ii, p. 219.

† *Ibid.*, vol. ii, p. 289.

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* Occasionally (at least for a time) no obvious jaundice is observed in some of these cases.

† *Med.-Chir. Trans.*, London, 1896, vol. lxxix, p. 323.

NOTES ON AN ANOMALOUS CASE OF DERMATITIS.

By HILDRED B. CARLYLL, M.A., M.B., B.C.

The following are the notes of a case of acute dermatitis which was under the care of Dr. Eustace Smith at the East London Hospital for Children.

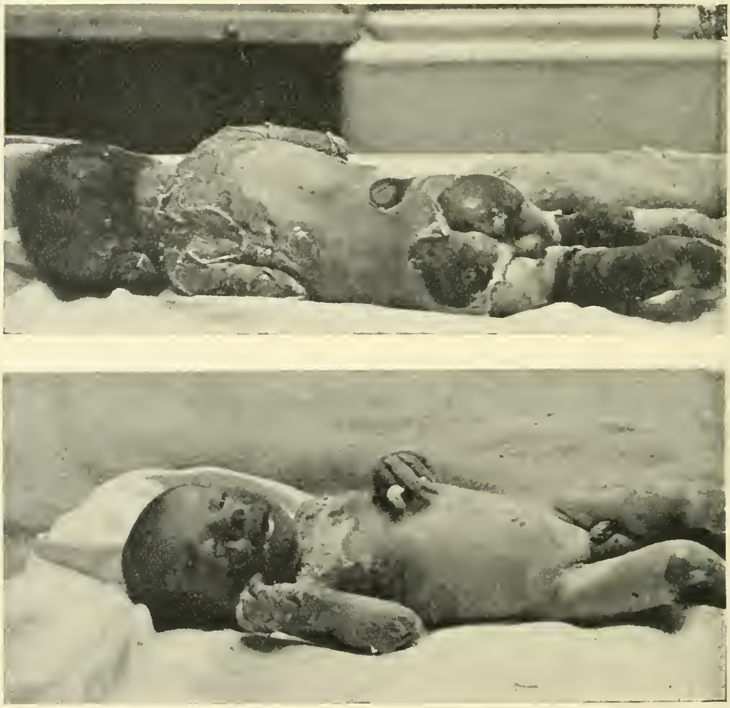
The child died the day following admission.

The photographs were taken after death by Sister Jarrett, of the hospital Light Department.

The skin is partially covered with powder.

J. S— was born in Shadwell on October 31st, 1909, at full term. The confinement was easy. At birth two red spots were noticed, each about the size of a threepenny piece. One was on the face and one on the body.

These spots soon became larger, and on the third day were very



Photographs taken a few hours after death. The lesions are partly covered with dusting powder.

marked. They rose as blebs, which increased in size and burst. Clear fluid escaped. Other spots appeared, mostly on the neck and ends of the fingers, and behaved in a similar way. The nails were said to be healthy. As the blebs burst the skin peeled off, leaving large raw areas.

A doctor was in attendance until November 9th, when the child was sent to hospital. He had been fed at the breast until this time.

The mother has had ten pregnancies, which include three miscarriages. The seven children were born alive at full term, except one which was born at seven months.

No similar affection has been noticed before in the family; specific disease denied. Such was the history obtained.

On admission the child was plump and well nourished; ten days old. Temperature 102·4° F.

The epidermis had peeled off in large pieces over the lower part of the face, the neck, the back and front of the thorax, the arms, hands, and fingers, the lower part of the back, the buttocks, legs, and feet.

Large red and inflamed surfaces were exposed, which were exuding serous fluid. No vesicles were observed.

In some places the skin had peeled in two or three distinct layers.

The skin on the abdomen, front of thighs, and over a small area on the back was normal.

The child was extremely irritable and died the day following admission.

No autopsy was obtained.

Hellier reports a somewhat similar case (*British Journal of Dermatology*, vol. xi) in which a bullous eruption, with stripping of the epidermis, occurred in a new-born infant; death took place on the fourth day of disease.

Crocker considered Hellier's case to be probably a severe example of Pemphigus neonatorum, in which disease, as he points out, the hands are seldom involved and the child is often in perfect health. He considers it a bullous infantile variety of Impetigo contagiosa, and not a separate disease, and points out its distinguishing characters from congenital syphilitic pemphigus, which also appears during the first week, but in which the lesions are pustular, and in which the nail-matrix is specially affected.

My thanks are due to Dr. Graham Little, whose interest in the photographs has prompted me to publish these notes, and to Dr. Eustace Smith for allowing me to do so.

THE METROPOLITAN ASYLUMS BOARD'S SCHOOL FOR RINGWORM.

A REPORT ON THE WORK THERE CARRIED OUT, WITH SPECIAL REFERENCE TO THE X-RAY TREATMENT.

It has been stated by the London County Council that of the three-quarters of a million children attending the elementary schools in London some 2950 annually suffer from ringworm of the scalp; and this estimate is probably very much below the actual number.

Besides these 750,000 children who attend the elementary day-schools, there are, during the year, 20,000 children under the charge of the Metropolitan Asylums Board as indoor paupers, and about 800 of these have scalp ringworm.

Of the children attending the elementary day-schools of the London County Council, some thousands have been treated by X-rays during the past five or six years at the voluntary hospitals in London.* But, although the matter has been much discussed of late, and arrangements have been entered into by the County Council with a few hospitals to treat a certain limited number of these cases, no very serious effort has yet been made for dealing with them adequately as a whole.

On the other hand, the Poor Law authorities have, during the past ten years, made special provision for the isolation and treatment of cases of ringworm which occur among children coming under their charge as indoor paupers. Since 1867 it has been the function of the Metropolitan Asylums Board to provide for the reception and relief of paupers suffering from smallpox and for insane persons who are paupers. In 1897 a further order was issued by the Poor Law Board, that certain classes of children, suffering from contagious affections of the eyes, or of the skin, those of defective intellect, and others, should also be provided for by the Metropolitan Asylums Board. A children's committee was formed by the Board, and provision was made eventually for all these cases. At a conference held on July 29th, 1897, the children's committee decided to open special schools for cases of ringworm, in which the children should be treated, and at the same time should receive instruction. The opinion of Dr. Colcott Fox as to the best method of procedure was sought by the Board, and, after some preliminary difficulties in regard to a site, a temporary school was opened at Witham, in Essex. Here the work was carried on for two years (1901–2) under the supervision of Dr. Fox; and in 1903 a much larger school was opened at Sutton, in Surrey. The two schools were continued until 1906, when the Essex school was closed, and all the children there remaining transferred to Sutton, Dr. Fox acting as visiting dermatologist until the present time. The following table gives the number of cases treated in each year :

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* Notably at the Westminster Hospital, at the London Hospital, and at Charing Cross Hospital.

At Bridge School, Witham, Essex, 1901, 187; 1902, 129. At Bridge School and the Downs School (Sutton, Surrey), 1903, 673; 1904, 619; 1905, 619. At Downs School, 1906, 705; 1907, 748; 1908, 807; 1909 (report not yet published), 900–1000.

At the present time, then, there is a resident school—the Downs School—with accommodation for 420 children, which receives cases of ringworm from the various institutions under the charge of the Poor Law authorities in London. These children are sent up to the school from their respective parishes or unions; some coming from infirmaries, others from "cottage homes," where they are boarded out, others from district schools or other institutions. On arrival at the school the children are put into quarantine in a "probation" block for two weeks before being sent to the main school, in order to avoid the introduction of exanthematic fevers into the institution. The visiting dermatologist attends the school once a week, examines all new cases, and directs the form of treatment to be adopted, and also examines old cases who have been treated, discharging those who are cured. The majority of cases are now treated by X-rays, two X-ray assistants to the dermatologist attending, each on one day a week. In addition to the visiting medical staff there is a visiting medical officer (Dr. G. Rice), a matron (Miss E. Turton), and a large staff of nurses. There are also teachers provided to carry on the education of the children during their stay in the school.

In the figures given above it will be noticed that there has been, on the whole, a gradual increase in the numbers of children treated annually, a fact which might seem to suggest that the school does nothing to check the prevalence of the disease. The explanation of this apparent anomaly is that the work of the school, when first established, was mainly that of clearing off large batches of ringworm cases from some of the institutions in which it had become endemic, and that, as these institutions have become cleared, more outlying districts have been included. Meanwhile, the introduction of the X-ray treatment in 1905 made it possible to deal with an increased number of cases, while recent improvements in the technique of X-ray treatment have still further expedited matters. But there is also much truth in the suggestion that the work of the school does not suffice to check the supply of cases, and this for the reason that no adequate measures are adopted by the London County Council for the prevention of the spread of the disease or for its treatment among the children in their day-schools. Most of the cases now going to the Asylums Board School are children admitted to the workhouses and infirmaries while already infected with ringworm, which they have caught at the County Council Schools, and children coming from cottage homes, who have also attended the Council's schools. The conclusion is, that until the London County Council deals firmly with this disease, the Metropolitan Asylums Board School will be kept well supplied with pauper children who have ringworm.

In regard to the treatment of the children who are admitted to the Asylums Board School, it has been already said that the majority are now dealt with by means of the X-rays. Previously to the introduction of the X-ray treatment towards the close of 1905 the average duration of the stay of a child in the school was nineteen months; when the X-rays were first employed it dropped to five months, and this year (1909) it has fallen to about four months. During the three years 1905 to 1908 some 1200 cases were treated by X-rays by Dr. Sale-Barker, and since the end of 1908 up to Christmas, 1909, about 850 cases have had this treatment. Three sets of apparatus are now employed at one time, and, with two operators working each on one day a week, it is found possible to treat as many as fifteen to twenty cases in each week. It need hardly be said that the Sabouraud pastille is invariably used for the measurement of dosage at each application.

The average cost per week per child, including maintenance, clothing, teaching, and treatment, is 13*s.* 7*d.* So that, with an average stay of four months, as at present, the cost for each child amounts to £10 17*s.* 4*d.* The cost of treatment alone (including medical fees, apparatus, etc.) works out at about £1 for each child.

This brief report of the work done at the Downs Schools will serve to show that, apart from the large numbers of ringworm cases treated by X-rays at the voluntary hospitals in London, a vast amount of this work has been carried out by the direction of the Local Government Board—a fact which is probably not generally known in the medical profession.

Before concluding this notice some remarks made by Dr. Colcott Fox in his annual report to the Board for the year 1908 may be quoted as expressing precisely the position of the X-ray applications as a method of treatment for ringworm. They are as follows: "The prolonged experience of the X-ray method confirms the view that it is in many respects ideal, especially in regard to the important features of painlessness, certainty, and rapidity. But it is none the less true that this powerful agent demands for perfect success the most careful attention to all the details of application in the hands of an expert."

Finally, although the X-ray treatment is to be regarded as the best and quickest method for the cure of ringworm of the scalp, it cannot be too strongly urged that, even when carried out on a very large scale, it can do little towards stamping out this scourge unless some system of stringent measures be taken for the prevention of its spread among the children of the elementary schools.

H. G. Adamson.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

An ordinary meeting of this Section was held at 20, Hanover Square, on Thursday, January 20th, 1910, Dr. Colcott Fox, President, in the Chair.

Dr. P. S. Abraham showed a *case of Mycosis fungoides.* The patient, J. J—, aged 50 years, was an electrician by trade. He came to the West London Hospital in November, 1909, with a severe general dermatitis, and several ulcers looking like broken-down gummata, and scars of old ulcers on the legs and elsewhere. He gave a history of syphilis twenty-five years previously, and of having had a wart on the penis seven years ago. He had been otherwise always in good health. His mother died at 78 years. His father, aged 82 years, was still alive. He had taken much alcohol and smoked a great deal. His work subjected him to great changes of temperature.

The present trouble began about fourteen months ago: red eczematous patches appeared on the right knee and on both forearms, and afterwards on the abdomen and other parts. Last June a swelling appeared on the left tibia, and soon after others showed themselves in many places. He said that the first tumour was as big as a cricket ball. These growths had ulcerated and had left depressed scars. He had lost much weight, and also much of his hair, especially of the scalp. His skin all over was in a condition of obvious inflammation, and at times "wept" all over most copiously; there was then extreme pruritus. When the "weeping" ceased, a dry stage set in, and there was an enormous desquamation including the hands and feet in large flakes.

A few weeks ago there had been an extensive vesicular and pustular eruption on the arms and forearms, thighs and legs. At the present time there were several tumours to be seen of different sizes, some of them breaking down, together with the scars of those which had healed. There was considerable adenitis, and one large mass occupied the left groin.

A *blood count* had given: Red corpuscles, 5,850,000; hæmoglobin, 90 per cent.; leucocytes, 13,000.

Differential count: Polymorphs, 54·7 per cent.; mononuclear cells, 37·9 per cent.; eosinophiles, 7·3 per cent.

Mr. McDonagh had examined the blood for the Wassermann reaction and had found it positive. He had also made sections of one of the smaller tumours, now exhibited under the microscope, and which he would describe.

The patient had had four applications of X-rays, the effect of which had not been judged yet, though they thought the groin tumour was somewhat softer as the result of the rays.

Dr. **Pringle** asked if there was any enlargement of the spleen. The marked general involvment of the lymphatic glands, as well as the results of the blood-count, appeared to him exceptional, and to point towards the condition being identical with that previously described as "Lymphodermia perniciosa."

Mr. **McDonagh** discussed the pathological aspect of Dr. Abraham's case, from which he demonstrated some sections. The tumour appeared to consist of a plasmoma, well defined, and limited beneath and on either side by strands of new connective-tissue cells and normal plasma-cells. The plasma-cells of the tumour were increased in size, some had lost their contour, and the protoplasm had become granular. The nucleus was also increased in size, often filling up the whole cell, and staining faintly and showing one or two nucleoli. A gradual transition from a normal into a degenerated (?) plasma-cell could be seen. The plasmoma also contained new blood-vessels, similar to those met with in sarcomata—of an embryonic type. To compare with this section was one of a late syphilide just before ulceration. There was a plasmoma, but the plasma-cells were not in such great numbers. They were breaking down, but the protoplasm always remained hyaline, never became granular. The nucleus did not increase in size, and no nucleoli were to be seen. There were also no new blood-vessels. If such a difference could be demonstrated in further cases in the way a plasma-cell becomes changed, it will be a useful sign for diagnosis and prognosis—distinguishing innocent and malignant disease; therefore he asked that he might make an appeal for any material bearing upon the subject.

Dr. H. G. **Adamson** showed—(1) a case of *Lichen simplex chronicus* of Vidal. The patient was a young woman, a general servant, aged 24 years. The eruption had been present for about eight years. It had begun on the neck, had after some years appeared upon the thighs, and more recently behind the knees. On the outer and front aspect of each thigh was an elongated oval patch, measuring 3 to 4 in. by 1½ to 2 in., violet-red in colour, infiltrated, quadrillated, and here and there excoriated, and framed by a narrow band of pigmentation—in fact, a typical patch of so-called "lichenification" or "Lichen chronicus simplex." The long axis of these symmetrically arranged patches on the thighs was from just below the anterior superior spine in a direction downwards and slightly inwards. On the back of the neck at its lower part were also two symmetrically disposed similar but smaller patches; and there was also a patch behind each knee, these latter being less infiltrated, probably because of more recent origin.

The patient said that the patches itched intensely, and that she could not help rubbing these parts, which she did through the clothes. There was no itching of other parts of the skin, and firmly stroking the skin revealed no vaso-motor irritability. The patient was otherwise in good health. Sometimes, for long periods, the itching had become less, and then the eruption had faded, though the patches had never quite disappeared at these times.

The case was in every respect a very typical example of Lichen simplex of Vidal.

A simple treatment for these patches was to cover them with adhesive plaster to prevent scratching, but X-ray applications were perhaps the best form of treatment. After a single Sabouraud pastille dose the itching was usually relieved within a few days, and infiltration cleared up within three or four weeks. In some cases a second or third application might be necessary at intervals of a month to six weeks.

(2) A case of *multiple keloid* associated with "*neurotic excoriations*" of the "dug-out" type of Colcott Fox. Patient was a young woman, Christina B—, aged 24 years, a domestic servant. She had had an eruption for three years, and she had been under observation at St. Bartholomew's Hospital since September, 1909. When first seen the eruption had consisted of about a dozen typical keloid growths irregularly distributed over the body and limbs, and five or six recent split-pea-sized "dug-out" excoriations. While under observation these excoriations had healed, some with red, thickened scars, others with flat, pigmented scars, and fresh crops had continued to come out.

The patient admitted that she produced these lesions with her nails. She had said that a little itchy spot appeared, which she could not help scratching. On one occasion she had presented on the face a small red papule with an erythematous halo-like lesion of Lichen urticatus, which, she said, was how they all came. The question of the relationship of these cases of "dug-out" excoriations to those presenting larger elongated oval excoriations had been discussed by Dr. Colcott Fox at a previous session (*Trans. of Derm. Sec. Roy. Soc. Med.*, February, 1910; *Brit. Journ. Derm.*, January, 1910, p. 17), and by Dr. Adamson when exhibiting cases on former occasions (*Trans. of Derm. Sec. Roy. Soc. Med.*, February and September, 1909; *Brit. Journ. Derm.*, January, 1909, p. 21, *et seq.*, and August, 1909, p. 296, *et seq.*).

The present case was shown on account of the multiple keloids, a complication which had been previously noted.

Dr. PRINGLE did not consider that the case was one of true neurotic excoriation. He was familiar with the condition, especially in neurotic young women, and considered it as an example of so-called Acne urticata, in which there were present distinct, deeply seated papules, and the depth of the lesions resulted from their being *dug* at with the patient's nails rather than being merely scratched.

(3) A case of *Onychia sicca syphilitica.*

The patient, J. W—, a house painter, aged 56 years, first attended the hospital in August, 1909. He then presented a squamous syphilide on the scrotum, and some oval, shallow ulcerations, and flat condylomata upon the tongue. There was also an affection of all the nails of the fingers and toes of three months' duration. At that time the distal two thirds of the nail was normal, while the proximal third, the newer growth nearest to the root, was replaced by an opaque, roughened, irregular condition of nail, sharply marked off from the older normal portion. The patient was treated with mercury and iodide of potassium, and the eruption on the scrotum had disappeared and the mouth condition improved. He had then ceased to attend, and had not appeared at the hospital until written for a few weeks ago. He had then presented the condition of nails now seen. The roughened opaque growth of nail had gradually advanced, pushing the normal portion before it, until many of the nails were entirely replaced by the diseased condition, while only a narrow band of normal nail remained at the distal ends of others. Two or three of the nails remained for about half their length, and these were the seat of roughened, blackened pittings, in linear arrangement from before backwards. The nails which had grown up and gradually replaced the normal structures were opaque, ridged vertically, with coarser and more wavy transverse ridgings, friable and easily split at their free edge, so that this had a denticulated appearance. The condition of nails seen had obviously arisen from some interference with their growth at their roots, and was not due to a primary affection of the bed or to one spreading inwards from the surrounding skin. A diagnosis of syphilis, psoriasis, eczema, or ringworm would be impossible from their appearance, but the association of the affection with syphilitic lesions, the absence of any evidence of eczema or of psoriasis, the failure to find ringworm fungus after repeated search, suggested very strongly that it was an Onychia sicca of syphilitic origin. The fact that all the nails of the fingers and toes had been affected simultaneously was also opposed to the diagnosis of tinea, and in favour of a general nutritional disturbance as the cause of the nail dystrophy. Apart from the lesions observed, there was nothing in the patient's history pointing to syphilis, so that the date of the nail lesions in regard to infection could not be arrived at.

Onychia sicca syphilitica, or Scabrities unguium syphilitica, *i.e.* onychia unassociated with periungual or subungual syphilitic lesions, was apparently a very rare disorder, for Heller, among 8000 to 9000 syphilitics, found only three cases. Fournier, however, had described it (Onyxis craquelé) as of somewhat frequent occurrence with syphilis in women.

Dr. PRINGLE agreed with the exhibitor that the condition of the nails was syphilitic, *i. e.* that they would not have existed if the patient had not contracted syphilis. It was common knowledge that nail-lesions, whether specific or not, responded very slowly to any form of treatment. He was rather astonished to hear that the condition was so rare as Dr. Adamson stated it to be, as he had had several examples of it in his practice, although not of such marked severity as that exhibited.

Dr. WHITFIELD said he had a case at King's College Hospital, which he believed to be syphilis of the nails. The man had had syphilis about twenty years; the nails were friable, and there was a good deal of perionychia. The case resembled Trichophytosis unguium so closely that he had on several occasions examined tissue for fungus, but always with a negative result. On the other hand, anti-syphilitic treatment seemed quite unavailing.

Dr. MACLEOD asked Dr. Adamson if he regarded the onychia as being a characteristic syphilitic lesion due to syphilitic disease at the nail-matrix, or simply a dystrophy due to malnutrition resulting from the disease. Dr. MacLeod had seen the same type of onychia in connection with general malnutrition and an imperfect peripheral circulation, and considered that it could not be regarded as a characteristic syphilide.

Dr. ADAMSON said that writers were not agreed as to whether the Onychia sicca in syphilitics was due to local lesions of the nail-matrix or to general nutritional disturbance. The simultaneous affection of all the nails in this case suggested the latter. The difficulties in the way of microscopical examination in these cases made it almost impossible to decide this point.

Dr. GALLOWAY and Dr. WINKELREID WILLIAMS showed a case of *Lichen planus* in a diabetic. Dr. Williams said that the patient, Mrs. —, aged 61 years, had presented, when first seen, in October, 1909, an old linear Lichen planus on the left foot, and a diffuse eruption of typical Lichen planus papules over the legs and a few papules also upon the arms. The main interest of the case was the presence of a large quantity of sugar in the urine. The patient had had diabetes for many years. A strict carbohydrate-free diet was prescribed, and an ointment of carbolic, perchloride of mercury and zinc, and salicin internally. A week later Dr. Williams saw her again. Her breath then reeked of acetone; her urine gave a deep diacetic acid reaction and had a strong chloroform-like smell; a large quantity of sugar was still present and also albumen, and the patient showed distinct symptoms of air-hunger. The Lichen planus had spread with intense rapidity. The diffused papules had coalesced into sheets of eruption, covering the entire thighs, the upper arms, the whole of the back, and great part of the abdomen. The general condition of the patient was obviously most serious. She suffered a great deal of distress from the eruption, but on account of the albuminuria Dr. Williams had feared to give her either arsenic or mercury treatment. The main distress was relieved by menthol lotions locally and phenacetin internally. The patient, after remaining in a serious state for two weeks, began to improve. The diacetic acid reaction cleared up, the air-hunger vanished, and the glycosuria improved. She had then consulted Dr. Galloway, who found the glycosuria had quite gone. The glycosuria and albuminuria was still absent when Dr. Williams examined the urine later, and had remained so for a month. She had vastly improved under internal treatment with 20 ♏ doses of liq. hydrarg. perchlor. three times daily. Dr. Williams had never previously seen a case of Lichen planus associated with glycosuria, nor a case so extensive or spreading so acutely. On searching the literature he was only able to find one paper on the association of Lichen planus and diabetes, *i. e.* by Dr. E. Hoffmann, an abstract of which was published in the *British Journal of Dermatology*, vol. xviii, p. 298. He records four cases—one of Brocq's, one of Saalfield's, and two of his own. Dr. Williams regretted that he had not had made a quantitative analysis of the urea elimination. Radaeli had stated that Lichen planus under treatment by arsenic improved as the urea elimination diminished. This fact suggested to his mind the possibility of the explanation of the severity of the rash in this case being due to the large urea output of a diabetic and the necessarily high nitrogenous diet.

Dr. GALLOWAY said that he had been consulted by this lady on the recommendation of Dr. Cohen, and subsequently had been in communication with Dr. Williams respecting her condition. He had little to add to the account already given by Dr. Williams; it was of interest, however, to note that the attack of Lichen planus seemed to be giving less trouble, and she was certainly in a much better state so far as the effects of the diabetes mellitus were concerned. The point that seemed to be of special interest in this patient was not the simple coincidence of Lichen planus and diabetes, but that in this case of long-standing diabetes of the "hereditary" type, when, on account of various circumstances, there had occurred an excessive formation of oxybutyric acid in the tissues, with the evidence of acetone and diacetic acid in the urine, then the outbreak of Lichen planus—and it had been one of the most extensive and severe outbreaks the speaker had witnessed—rapidly appeared. The occasional association of Lichen planus and glycosuria had been noted, and in the case of this particular patient, with the family history she gave of many relatives being affected with the disease, there was a greater numerical probability of the coincidence of any other affection with diabetes; still, even after making this allowance, the outbreak of severe Lichen planus when she was in greatly depressed health as a result of her disease seemed to be more than a fortuitous occurrence. The power of the toxæmia in diabetes of producing severe forms of peripheral neuritis should be borne in mind by those who may be inclined to support the nervous origin of Lichen planus. The urine was now free of sugar and had been so for some time. It was to be hoped that the attack of Lichen planus would continue to disappear.

Dr. ADAMSON suggested that the pruritus, which was a common symptom of diabetes, might have acted as the exciting cause of the eruption of Lichen planus. There were some authorities who believed that the eruption of Lichen planus was determined by the scratching in a predisposed person. Hallopeau had recorded a case (*Annales de Derm. et de Syph.*, 1903, vol. iv, p. 352) of Lichen planus developing concurrently with scabies, and the speaker had seen a similar case (*Brit. Journ. Derm.*, vol. xv. 1903, p. 378).

Dr. WHITFIELD said, with regard to the theory quoted by Dr. Adamson, that the eruption in Lichen planus was the mere result of scratching, he considered that this theory was disproved by the fact that some of the most acute and widespread cases did not itch and were not scratched.

Dr. ADAMSON said that he did not hold the view that the eruption of Lichen planus was solely the result of scratching; but it was generally recognised that local irritation helped to determine the incidence of the eruption on particular localities, and it was conceivable that an intense pruritus, with resulting scratching, might be just sufficient to turn the scale and induce an outbreak in a person who might otherwise have escaped.

Dr. WILLIAMS, in reply, confirmed the statement that the patient had had diabetes a long time, and added that two of her sisters were at present ill with it. The Lichen planus had supervened comparatively recently.

Mr. G. W. DAWSON showed (1) two cases of *urticaria*. The patients, a young man and a young woman, who were companions, both suffered from urticaria when exposed to the cold. Blisters came out on the hands and under the eyes, but disappeared when they got warm again.

Dr. STOWERS suggested that as a common cause must be the explanation of the condition the two patients may have been simultaneously affected by a toxin of dietetic origin.

Mr. G. W. Dawson: (2) A case of *rodent ulcer*. The patient had a superficial rodent ulcer of the inner canthus of the eye. Sections (exhibited) showed numerous cell-nests in an otherwise typical rodent ulcer growth.

Dr. Graham Little showed (1) a case of *sclerodermia of the diffuse type* in a woman, aged 58 years. She began to show signs of illness two years ago, when persistent vomiting was present for a week, and though temporarily stopped this recurred from time to time ever since. The vomiting took place immediately after food, which caused pain and retching. At about the same time the hands and fingers began to "faint," *i. e.* get blanched, and subsequently congested, the alternation being attended by some pain. The fingers began to be "shiny" about eighteen months ago, the wrists to get stiff about nine months ago. She had had constant pains in the joints (the knees, ankles, and neck), but there was no sclerodermic skin in any of these positions.

The present appearances were as follows: The fingers of both hands were uniformly affected, the fingers swollen, tense, and very shiny; slight flexion at the pharyngeal joints was still possible, but the metacarpal joints were stiff. The hand was also swollen and shiny and very hard; no pitting was possible. The wrist was quite immobile, the skin over the forearm being firmly adherent to the underlying tissue, which was much wasted, so that the forearm was thin, the surface white, very smooth, and shiny. The altered skin reached as far as the elbow; above this area the skin appeared normal.

Sensation of touch, of pain, of heat and cold, were present in the altered area. The hands were excessively cold to the touch.

No other portions of the body were as yet affected. On the little finger of the right hand there was a small ulcer, the result of local injury, which appeared very intractable.

The origin of sclerodermia in an infective toxæmia had been maintained by some authors, *e.g.* Leredde. The commencement of this case with chronic vomiting would seem to lend some colour to the possibility.

(2) A case of *sclerodermia of the circumscribed variety*, with unusually numerous patches. The patient was a boy, aged 18 years;

he had begun to have the disease, to his knowledge, six months ago, the earliest symptom having been itching in the parts, afterwards becoming sclerodermic. Movements began to be impeded later, and there was already some atrophy and wasting. The following was the distribution of the disease :

Right arm.—A large area of the forearm was involved over the middle two thirds of the posterior surface, and there was a small oblong inlet of sclerodermic tissue on the anterior surface; above the elbow the greater part of the external and posterior surfaces of the upper arm were involved in sclerodermic change, and, again, a small patch on the upper anterior aspect, over the prominence of the biceps muscle.

Left arm.—Very similar and quite symmetrical distribution as on the right upper extremity.

There was a patch of sclerodermia over the lower third of the sternum, and another over the lower part of the sacrum; there were several small isolated patches in the internal tibial groove on the back. There was some pigmentation on both sides of the neck in brown patches the size of from sixpence to a shilling, with small areas of sclerodermia in immediate contiguity.

There was a small patch of sclerodermia on the inner side of the right leg just above the knee, and a larger area just below the inner condyle of the femur, and a patch the size of the palm of a hand on the external surface of the right leg. The left leg was very similarly affected, the patches being again curiously symmetrical with the right side. In all the areas affected the skin was whitish yellow, intensely smooth, thin, and atrophied, no hairs or hair-follicles being visible on the surface, and the underlying tissues were obviously wasted. Redness had never been present, and there was no semblance of the "lilac ring" described as morphœa.

(3) A case of *Recklinghausen's disease.*

The patient was a man, aged 20 years, rather short of stature, and somewhat under the average of intelligence. The tumours were extraordinarily numerous, although small for the most part, and better felt than seen. On the forearms numerous lines of small tumours could be felt running down for the most part along the course of nerves; over the abdomen small shotty tumours could be felt and seen on lateral inspection, forming a veritable mosaic. There were very few larger, but nevertheless small isolated, fleshy "molluscous" tumours; most of these were hard, small swellings, very slightly if at all tender. Pigmentation, the second cardinal symptom of this disease, was scanty, and limited to a circumscribed efflorescence of small freckle-like macules on the part of the abdomen just above Poupart's ligament on each side, with some few larger isolated "*cafe-au-lait*" patches on the thighs and lower part of back. There were no tumours in the mouth.

The patient had been treated with injections of fibrolysin, a capsule (2·3 c.c.) having been injected intra-muscularly about twice a week while he had been an in-patient for about four weeks, at longer intervals, generally of about a fortnight, while he had been out of the hospital. The injections appeared to be followed by headache, and had not so far been attended by any manifest improvement in the size of the tumours or otherwise.

Dr. STOWERS asked whether the early stages of the condition were associated with any acute disorder or disease. A similar case (of which he had drawings), but more severe, and upwards of twenty-four years' duration, he exhibited at the Dermatological Section of the International Medical Congress held in London in 1881.* The patient, a married woman, was well in general health until her first pregnancy, at the age of 23 years, when she suffered severely. From that time cutaneous disorder followed, and typical generalised sclerodermia (Sclerodermia diffusa) developed.

Mr. J. E. R. MCDONAGH showed (1) a case of *syphilitic Erythema nodosum*. A girl, aged 21 years, had come up to St. Bartholomew's Hospital, complaining of a sore lip.

The sore had appeared at Christmas, and three weeks after the patient had enlarged glands in the neck.

Fourteen days after the sore was noticed a rash had appeared on the trunk and limbs.

On examination the sore on the lip had proved to be a chancre and the rash a typical syphilitic eruption.

From the knees to the ankles on both legs, both in front and on the sides, there were circular, bluish-red papules about the size of a shilling. When they first appeared they were slightly painful, the pain only lasting for two days, without disappearance of the lesions. The papules were hard, well circumscribed, discrete, and not tender.

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* *Vide Transactions*, vol. iii, p. 189.

Where the skin was normal, subcutaneous hard nodules could be felt in the course of the veins.

Under the influence of mercury the lesions had become scaly and tended to disappear without ulceration.

The appearance of the lesions, and the absence of pain and tenderness, and their coming out with the rash, left no doubt that they were of syphilitic origin, especially as subcutaneous nodules (phlebitis) were palpable in the normal skin.

The exhibitor was indebted to Dr. Adamson for kindly allowing him to show the case.

Dr. **Whitfield** said that he had seen one case in a woman which ulcerated, but she had a good deal of varix. The ulceration was in patches, but never very severe. He deprecated the use of the term "Erythema nodosum syphiliticum," and considered that it was a nodular syphilitic phlebitis.

Dr. **MacLeod** said that he regarded the name "syphilitic Erythema nodosum" as an unfortunate one and apt to lead to confusion. He thought that the condition might be better described under the heading of "syphilitic nodular phlebitis," as it corresponded to the affection minutely described by Philippson in connection with tuberculosis, to which he had given the name of "Phlebitis nodularis necrotisans."

Mr. **MacDonagh** replied that he called it "Erythema nodosum" because when first seen, that was the first condition which occurred to one. It was also so described in text-books.

Mr. J. R. **McDonagh** and Mr. **Potter**: *Chancre of the tongue.* Mr. Potter said the sore had appeared at Christmas and was accompanied by a sore throat. Soon after the patient noticed the sore a gland had begun to swell on the right side of the neck opposite the thyroid gland (on the opposite side to the tongue lesion). On January 18th a rash had appeared over the trunk, the tongue lesion being nearly healed by this time, but densely infiltrated, and glands were palpably enlarged on both sides of neck and submaxillary regions.

The rash was a typical early syphilide.

Mr. McDonagh had not been able to find the *Spirochæta pallida* by the dark-ground illumination method, probably because the ulcerated surface had granulated over, but Wassermann's reaction had given a strong positive result.

Dr. J. H. **Sequeira** showed a case of *non-ulcerative tuberculides following Lupus vulgaris.* The patient was aged 20 years; he was born at Ipswich, and lost his parents in early childhood, and therefore could not give any particulars as to the family history. When he was nine years old a patch of lupus appeared on the end of the nose, and gradually spread until the whole of the nasal skin, and both cheeks were involved. He had had four operations (erasion) before he came to the London Hospital in 1906. The nose and adjacent parts of each cheek were then the seat of a remarkably warty lupus, but at the edges of the affected areas there were characteristic "nodules." In the central parts there was some scarring, the result of the previous scrapings. Dr. Sequeira did not remember to have seen a more warty lupus, and a preliminary curetting was performed, followed by a few applications of the X rays. After the surface treated had healed the Finsen treatment was applied. The patient attended the Light Department for some fifteen months, and the lupoid lesions were then quite cured. The parts were rather badly scarred, and there had always been an excess of pigmentation in them. The general health had been good throughout.

From time to time the patient had come up for inspection, and eight months ago it was noticed that there was an eruption of a papular character on the forehead, and behind both ears and the adjacent part of the neck. The lesions must have appeared very rapidly, as a month only had elapsed to the time they were noticed from the previous inspection. Some of the spots on the forehead had disappeared, leaving small depressed cicatrices. The eruption consisted of hemispherical papules all about one size, about 2 mm. in diameter. They were remarkably symmetrical, and about thirty or forty in number. They had a purplish-brown colour, and felt like shot imbedded in the skin. There had been no ulceration, and those which had disappeared had done so spontaneously.

One nodule had been excised, and the following report of the microscopical appearance had been furnished by Dr. Turnbull, Director of the Pathological Institute at the London Hospital:

"The skin is horny, and furnished with hairs and sebaceous gland. Sweat-glands are also present. There are a very few cells with yellow pigment-granules close beneath the epidermis, and there are some fine pigment-granules in the Malpighian layer throughout the section. In the dermis is a large rounded cellular nodule. This does not quite reach the epidermis. Passing down to its summit is a hair-follicle. In the upper part of the nodule close to the termination of the hair-follicle is a large rounded space. This contains concentric lamellæ of horny substance, and is bounded by one or two layers of flattened squamous epithelium. No stratum granulosum is seen in this epithelium. The nodule is well-defined but not sharply limited. The stroma of the nodule consists of a reticulum of fine fibrils, with spindle and elongated oval nuclei. In the central part the nuclei are very abundant. The fibrils are very fine, and stain yellow with van Giesen; in the periphery the nuclei are less numerous and the fibrils stout, and stained red. The fibrils at the periphery merge with the collagen fibres of the dermis. This reticulum contains capillaries, and is densely infiltrated with free cells. The majority of these are lymphocytes, but eosinophile polymorphonuclear leucocytes are present in very large numbers. In the lower part of the nodule there is one small area in which there are large lumps of an extra-cellular yellow pigment. In three sections stained by the Ziehl-Neelsen method no tubercle bacilli were found. No giant-cells were observed."

The lesions were clearly not lupoid, and their symmetrical arrangement and chronicity had led to the diagnosis of "tuberculides." In spite of the absence of any tendency to break down, the members present agreed with the view expressed by the exhibitor.

Dr. PRINGLE suggested that a guinea-pig should be inoculated for the purpose of confirming the diagnosis.

Dr. STOWERS exhibited a male patient, a commercial traveller, aged 64 years (sent to him by Dr. C. Owen-Fowler, of Thornton Heath), the subject of chronic *Tuberculosis cutis*. Ten years ago the left hand was struck against the sharp lid of a tin tea-canister. A small piece of skin, the size of a pin's head, was dislodged, and stamp adhesive paper was applied at once, followed by other unauthorised applications. The wound did not heal, but a slow process of superficial ulceration followed. The diagnosis had been confirmed by microscopical examination. The ulcer which now exists over the metacarpo-phalangeal joint of the left forefinger is of irregular shape and measures 1½ in. by 1¼ in.

A few small pale-coloured islets of new skin are visible upon the surface, and although some attempt at healing is discernible, there is a tendency to spread on the radial side, and much pain is complained of. The bones are unaffected. The patient had had X-ray treatment without apparent benefit. At the present time the limb is carried on a splint and dressed with hydrarg. oleat. 5 per cent., with antiseptic covering, etc.

The question was raised whether Finsen light or radium treatment were likely to assist recovery.

Dr. **Dawson** said he would be inclined to cut the lesion out, and then graft.

Dr. **Stowers** replied that he had a case of localised Tuberculosis cutis under his care three years ago, in the person of a lady who came from India with the history that she injured the back of her right hand against a tooth of a pet cow she was in the habit of feeding. Microscopical examination proved the nature of the disease, and it was excised with permanent good result. An early excision in the case he was now exhibiting would have been the best treatment.

CURRENT LITERATURE.

STUDIES IN THE METABOLISM OF CERTAIN SKIN-DISORDERS

(First Part). James Johnson and Hans Schwartz. (*New York Med. Journ.*, March 13th, 1909.)

This work, which embodies the results of an elaborate and painstaking investigation into the metabolic changes occurring in certain diseases, was undertaken in the hope of demonstrating—(1) a connection between disordered metabolism and a number of inflammatory dermatoses by means of evidence deduced from urine examination; and (2) of finding some rational means by which relapses in those inflammations could be controlled.

An account of the nitrogenous output in normal urine is first given, and stress is laid on the striking differences between the percentages in low and high total output when comparing it with the nitrogen ratios in disease. One or all of three characteristics were considered necessary in determining the presence of disordered metabolism from urine analysis: (1) The presence of compounds not found in normal urine, such as albumen, the acetone compounds, and kreatin; (2) the occurrence in increased quantity of substances like indican, which ordinarily appears in small amount; (3) variations in the proportions of normal constituents wide enough to be recognised as departures from the standard.

In an analysis of twenty-one cases a small amount of albumen, rarely more than a trace and generally of serum or nucleo-albumen, was found in eight. Albumen occurred in Erythema multiforme as part of an acute nephritis, but generally in connection with chronic diseases; in one case of chronic urticaria; in two of five examples of Dermatitis herpetiformis; in one of three prurigos; in two acute, one nephritic, and one chronic eczema among seven.

In certain instances the presence of albumen was accounted for by inflammatory exudate from the urogenital mucosa. When the cases were followed it disappeared under treatment, although it persisted in one case for a year and a half through all the fluctuations. Acute relapse in the skin did not seem to affect the amount present. In two cases in which albuminuria reached the grade of nephritis the renal change had no apparent effect on the nitrogen partition.

The authors do not agree with other observers in attaching much importance to indicanuria. They found it quite constantly in patients with bullous eruptions, particularly Dermatitis herpetiformis, as pointed out by Engman, and generally in considerable quantity. But it may be absent at the height of an attack, as was shown in one of their cases. The irregularity of its occurrence was illustrated in the prurigo patients. It was present in two cases of this disease, and in one never disappeared in spite of diet and medication; in the third it was at first absent, but appeared later coincidently with the disappearance of the albumen.

The urine of chronic urticaria and rosacea with gastro-intestinal disease and flatulence failed to show it. Acute attacks of urticaria and eczema are generally marked by indicanuria, but it is often absent in subacute and chronic cases.

The amount rarely rises so high in eczema and urticaria as in the bullous group. Eruptions do not necessarily improve with its disappearance, and may resolve partially or wholly while it continues. In consideration of these facts the authors are inclined to attribute slight, certainly not ætiological, importance to indican, while there can be no reasonable doubt that circulating, unoxidised indol may contribute materially to a general intoxication.

The acetone compounds were not found in the analyses. Kreatin was discovered once in the urine of an old man with scrotal eczema; it disappeared, although the disease continued to spread. The more striking variations in the ratios of the nitrogen partition may be expected in the prodromal stage of an acute attack, and this point is considered to be convincingly demonstrated in the authors' reports, not only in bullous disease but in erythematous and scaling disorders, and in the first few days of eruption as well as in the prodromal period. In general the economy soon accommodates itself to the disturbance, and the evidences of it disappear from the urine. At times, however, particularly when the rules of diet are not rigidly observed, the derangement persists. Relapse in the course of chronic disease shows exactly the same change in the nitrogen partition. In chronic disease without exacerbation the urine may show no radical divergence from that obtaining in healthy persons, even when the eruption is at its height, covers large areas, and has existed for some time. This rule has notable exceptions in cases pursuing an uneventful course. Typically chronic inflammations, seborrhoic eczema, Erythrodermia pityriasique, and psoriasis exhibit normal partitions in spite of violent attacks of indigestion.

The disorder of metabolism shown in the writers' cases was almost invariably failure of urea synthesis or defective desamidation, consisting in a decided drop in the urea, with a corresponding rise in the rest nitrogen percentage, or in the latter alone. In the prodromal period of eczema, rest nitrogen reached 11·9 per cent.; in Dermatitis herpetiformis, 11·4 per cent.; in prurigo, 16·6 per cent.; in urticaria, 16·5 per cent.; corresponding figures for urea being 80 per cent., 73·6 per cent., 71·2 per cent., and 71 per cent. Observations on the effect of treatment on the nitrogen ratios are vitiated by the gradual return to normal after the stage of onset which occurs in most cases, though by no means in all, under natural conditions. Two important points were brought to light. In two of the cases the proteid food was increased to rather large quantities twice a day. In both instances, after a lapse of ten and in the second of thirteen days, the experiment was followed by eruption, which was preceded by a rapid increase in rest nitrogen percentage. The conjunction of the two symptoms seemed to the authors to be convincing. In the second place, under injections of extract of autolysised whole sheep thyroid, the same phenomenon occurred in two cases, but to a greater degree.

Importance attaches to blood examination in bullous and scaling eruptions, because it may give in relapse a fairly reliable indication of impending outbreak. Eosinophilia was exhibited to a marked degree in bullous eruptions. In one case of prurigo it receded under treatment from 21 per cent. to 2·6 per cent. It begins at the time of the other prodromal symptoms—four or five days before eruption. Lymphocytosis occurs in acute scaling disorders in much the same way. Both fall to normal when improvement becomes pronounced, often before eruption disappears. With reference to the significance of the changes in the blood and urine in relation to cutaneous disease, it cannot be said that any of the urinary compounds mentioned above are themselves toxic in any quantity in which they occur in the body, still less are any of them likely to be specific. In consideration of the facts that disturbance in the nitrogen partition is most common and conspicuous in the prodromal period, that it is associated with other symptoms of intoxication, and returns to normal as improvement goes on, the conclusion seems justified that this change and the skin-lesions are related in being effects of the same cause. There is at present no way of finding out the actual exciting agents in the production of the primary error of metabolism or of their effect on the skin.

Eosinophilia and lymphocytosis must be regarded, with skin-lesions and urine changes, as part of the symptom-complex, additional evidence of systemic poisoning, their repression synchronising with abatement of other symptoms.

The writers do not consider any special line of treatment suggested by their work. Regulation of diet should take the form of limitation of proteid intake, to the point of total prohibition for a time in acute cases. Green fruits and vegetables are pointedly indicated. Medication in the erythemata and scaling disorders takes the form of elimination alone by the intestine, kidneys and skin.

Diaphoresis is contra-indicated in acute eczema; otherwise it is universally applicable and better secured by the hot-air cabinet than by pilocarpin. Saline cathartics with occasional doses of mercurials give better results in intestinal putrefaction than antiseptics. Elimination by the kidneys may need no further aid than quantities of non-aërated water, but saline diuretics were generally resorted to in addition. Relapses even of Dermatitis herpetiformis were aborted in a few days by vigorous eliminative treatment along these lines. In prurigo and most cases of Dermatitis herpetiformis it was found that treatment by diet and elimination carried the patient only to a certain point. Thyroid medication was tried in prurigo, and the cases improved under injections of aqueous extract of sheep gland or the nucleo-proteids of the thyroid. In urticaria it was not beneficial. The authors conclude the first part of this paper with notes of their cases.

S. E. D.

A NODULAR, TERMINATING IN A RING ERUPTION (GRANULOMA ANNULARE). Grover W. Wende. (*The Journ. of Cut. Dis.*, September, 1909.)

A policeman, of large, heavy build, aged 49 years, with a history of dyspepsia for fifteen years, had in 1906 an arthritic attack for several months, and during its subsidence an eruption appeared on the nape of the neck in the form of a succession of flattish, red-white, urticarial-like nodules, without itching or burning, and some of abrupt evolution. A proportion of nodules were evanescent, others persisting and enlarging, capped in the centre, and formed rings or segments, and coalesced. This eruption disappeared under treatment with a sulphur and ichthyol ointment. A month later nodules reformed in the same locality, and spread to the centre cervical region, the mastoid region (two), the mandibular region (linear), the right wrist (four), the left wrist (three), the back of the right index finger (one), and on the right thenar eminence (one). The old treatment failed. He had some shifting pains and tenderness in the joints for a time. The recorder found in the urine some increase of indican, a trace of serum-albumen, and a few hyaline and finely granular casts, and refers in another place to the presence of large quantities of uric acid.

The patient was seen on August 1st, 1908, with the eruption out, but it is not definitely stated whether this was still the second attack persisting, for now the old ointment was quickly effective. A month later he had acute coryza and rheumatic-like pains, and in a week had a fresh and more severe outburst of nodules, appearing suddenly, and a proportion evolving into the rings which persisted for several months. There was no reaction to tuberculin placed in the eyes. In this attack the upper part of the chest and back were also involved.

A portion of a ring was excised and examined histologically. The epithelium was normal. Apparently there was a mass of small-celled infiltration in the corium, surrounded by isolated patches, often seated about hair-follicles and sweat-ducts, and in close relation to blood-vessels. Spindle-shaped connective-tissue cells were found in superficial patches. Where the infiltration was most marked evidence of broken-up elastin and collagen fibres were noted. In the denser infiltration giant-cells were seen, and mast-cells in the sub-papillary region.

Inoculation in guinea-pigs were unsuccessful, and many cultures were sterile, but a few became contaminated with staphylococci.

T. C. F.

THE INCREASE OF CERTAIN CONTAGIONS FOLLOWING THE GREAT FIRE IN SAN FRANCISCO. Douglas W. Montgomery and Howard Morrow. (Amer. Derm. Assoc., 1909, and *Journ. of Cut. Dis.*, October, 1909.)

A city of half a million inhabitants was practically destroyed in two days, and over 100,000 people were compelled to live in temporary camps. The multitude of latrines were at first unscreened. These and camp kitchens and collections of garbage attracted myriads of flies, and the necessarily insanitary conditions of all sorts may be imagined. Impetigo had been previously regarded as a disease of childhood and of contact. After the fire Impetigo contagiosa became very frequent, and adults, especially males, were infected out of all proportion.

The infection at barbers' shops was very marked. Typhoid fever and plague also increased. The authors suspect the impetigo was largely communicated by flies, and they mention the complication of plague in mediæval Florence by severe eruptions, probably caused by streptococci.

T. C. F.

ACUTE SEPTIC PEMPHIGUS. Joseph Grindon. (*Journ. of Cut. Dis.*, October, 1909. Illustrated.)

A farmer, aged 33 years, presented himself with ten or twelve large white blisters, some broken, on the abdomen, of about a week's duration. There was no history of any initial injury. A week later there were over one hundred lesions, and more widely distributed, including the face, hands, and buccal mucous membrane. Just over a month later he had been gradually getting worse, and fever was noted for the first time, and he was admitted to the Washington University Hospital with generalised bullæ and numerous large raw places, crusted and bleeding lips, injected conjunctivæ, denuded areas in mouth, palate, and on the tongue. Circular, continuous, unilocular blebs, or a similarly shaped denuded area, might be seen enclosing a disc of intact epidermis as large in places as four inches in diameter. In other places was a large central bulla surrounded by smaller satellite lesions, or single isolated bullæ. The general condition was fairly good; temperature 100° F., pulse 98, respirations 20; no albumen or sugar, and indican normal. Continuous bath treatment was carried out, and the temperature was raised by it. The bath eased his pain, but he bitterly complained of cold when in it, though the weather was hot and the water warm. On the twenty-fourth day the patient became quietly delirious, without rise of temperature, then unconscious, the pulse disappeared, and the patient died nine days after admission. The total duration was ten weeks. An autopsy was not allowed.

As to the diagnosis the author excludes Dermatitis herpetiformis. Fatal bullous impetigo, he says, is limited to very young infants, and does not involve the oral mucosa. Bowen's ingenious speculation of the identity of septic pemphigus with the foot and mouth disease of cattle, the author remarks, finds support in a recent striking report of the Bureau of Animal Industry (abstract *Amer. Med. Assoc.*, May 22nd, 1909, p. 1679) on an epidemic of the latter disease traced to the use of infected vaccine virus, and the bearing of this discovery on the ætiology of post-vaccinal pemphigus is obvious.

T. C. F.

CASES OF BROMIDE ERUPTION MISTAKEN FOR BLASTOMYCOSIS. Oliver S. Ormsby. (Amer. Derm. Assoc., June, 1909, and *Journ. of Cut. Dis.*, October, 1909.)

As the result of observation of three cases of bromide eruption the author was struck with the similarity in appearance of certain types. The type referred to is the confluent condylomaform one, occurring chiefly on the lower extremities and face, and usually of slow involution, most often seen in infants and young children and young adults. The lesions may ulcerate or develop on scars. Two of the cases referred to were diagnosed as blastomycosis by practitioners who were acquainted with the latter disease. On the other hand, the author saw a case, exhibited as a bromide eruption at the Chicago Dermatological Society, which he suspected to be blastomycosis, and later had the opportunity of confirming the correctness of his view by microscopical examination. In the bromide eruption the papulo-pustular lesions of the elevated active margins of patches are more superficial, are more irregular in shape and size than in blastomycosis, and their contents more lactescent. Also the earlier stage of the bromide eruption is more actively inflammatory.

T. C. F.

THE ÆTIOLOGY OF PSORIASIS. (Amer. Derm. Assoc., June 3rd–5th, 1909, and *Journ. of Cut. Dis.*, November, 1909.)

Drs. S. Pollitzer and Jay Frank Schamberg introduced an interesting discussion, the latter contributor dealing specially with the question of the parasitism of psoriasis.

Pollitzer discussed four important theories: (1) Psoriasis depends on the constitutional changes associated with "rheumatism" and gout. Under these terms are included a number of conditions of faulty nutrition of more or less indefinite nature. In a small percentage of cases the patients complain of aches and pains in nerves and muscles, and arthropathies develop, sometimes preceding or coincident with the first eruption, or evolving at later stages. The conclusions of Johnston and Schwartz (Sixth Intern. Derm. Congress) are quoted to the effect that careful investigation showed that no recognisable disturbance in the nitrogen metabolism of the system could be traced, and as to blood changes, Pollitzer said the general opinion to-day was that they were inconstant and without significance. The idea of disordered metabolism has led to the carrying out of various dietings, which Pollitzer does not support.

(2) Psoriasis is caused by disturbances in the nervous system of great variety; purely mental or emotional, or in epileptics, melancholiacs, etc.; following severe systemic infections, or in association with pregnancy and lactation. Pollitzer finds little ground for the assumption that the nervous system plays directly an important part.

(3) The influence of heredity is generally accepted, and Pollitzer quotes much suggestive evidence.

(4) Psoriasis is an infective disease of local and external origin, and the parasitic agent may be associated with most varied constitutional states which makes the soil vulnerable. Though the direct evidence needs confirmation, the collateral evidence is suggestive, based on analogy with known mycotic skin-diseases, the development of the lesions, their peripheral extension, their circinate form and ringing, and, it is added, the efficacy of antiseptic treatment. In the discussion the occasional formation of a herald patch was given in support of the parasitic theory.

Pollitzer concludes with a discussion of the relation of psoriasis to the so-called "Eczema seborrhoicum," and appears to decide for the identity, with some non-essential differences, of the two processes.

Dr. Schamberg devoted himself to the question of the parasitism of psoriasis. He considered three propositions:

(1) That psoriasis is a constitutional infectious disease with the exciting organism circulating in the blood. Though acute outbursts may suggest this causation, the clinical history generally is against it, and there is not *per se* any disturbance of the general economy. The skin alone seems involved.

(2) Psoriasis might be due to the implantation upon the skin of an exogenous parasite, as in ringworm.

(3) The disease might be due to one of the common facultative parasitic organisms ever present upon the skin in individuals in whom a constitutional predisposition rendered the soil favourable.

The clinical evidence was reviewed. The analogy of the nail changes of psoriasis with those of ringworm have been insisted on, but though the diagnosis in old cases may be obscured. Kuznitzky and Schutz pointed out the early stages of attack were quite different, as psoriasis starts by punctate lesions beneath the body of the nail. Schamberg then quotes many instances in which contagion was suggestive, but the general opinion is against such a conclusion, as multiple cases in a family do not necessarily mean contagion, as in Alopecia areata. With regard to inoculation experiments he quotes records, and especially the experience of Destot and Augagneur at Lyons in 1889, which, however, does not seem very conclusive. Schamberg himself carried out a number of experiments on twenty-three patients by endeavouring to inoculate patients already suffering from psoriasis, *i.e.* possessing a suitable soil, but here comes in the possible fallacy caused by the well-known fact that when psoriasis lesions are evolving they will tend to occupy injured portions of skin. He was successful in three patients, who exhibited more evolutional activity of the eruption. He concludes by saying that no definite conclusion as to the parasitism of psoriasis is warranted.

T. C. F.

SYSTEMIC BLASTOMYCOSIS, REPORT OF A CASE. BRYCE FONTAINE, MARCUS HAASE, and ROBERT MITCHELL. (*Archiv of Int. Med.*, August, 1909, iv, p. 101.)

THE case which forms the subject of this report occurred at Memphis, and is believed to be the first recorded in the Southern States of America. The patient was a married woman, aged 27 years, a native of Austria who emigrated to America. The disease began in June, 1908, with coughing and expectoration of muco-purulent sputum. This was associated with physical signs of severe lobar pneumonia. After an illness of seven months she died. About a month before her death an eruption appeared on the face, and later on the neck, trunk, and legs. The first lesion, which occurred on the forehead, was a small papule which increased in size and became capped by a pustule. Lesions of this type, varying in size from a pin-head to a half-dollar, and about 600 in number, appeared. The largest lesions were raised about one eighth of an inch above the surface and covered with a dirty yellowish scab, on removal of which an irregular papillomatous surface was noted with sero-purulent fluid between the projections. Several lesions were present on the scalp. Smears were made from the pus of several lesions and numerous blastomycetic organisms were found, some of them budding. The patient was given the usual stimulant treatment and several doses of pneumococcic serum; moderate doses of iodide of potassium were also given, but in spite of this she gradually sank and died from toxæmia on November 9th. An autopsy was performed two hours after death, and showed catarrhal pneumonia of the lower lobe of the left lung and necrosis of the middle and upper lobes with miliary abscesses. Parenchymatous degeneration was noted in the liver and kidneys, and the spleen was acutely inflamed and presented miliary and confluent abscesses. The lymphatic glands were not involved. On microscopical examination an acute pneumonic process was noted in the lungs, in which most of the alveoli were seen packed with exudation consisting of degenerated cells, fibrin, and numerous blastomycetes. In the liver the liver-cells were degenerated and separated by lymphoid cells. Nodules and blastomycetic infiltration were noted about the intra-lobular veins, and in the endothelium of the veins a few blastomycetes could be seen. In the skin small abscesses were present throughout the epidermis, and dense areas of infiltration with microscopic abscesses were seen in the corium. In these abscesses numerous blastomycetes in process of budding were detected. The organisms in all the lesions in the different organs were seen to multiply only by budding.

In 65 per cent. of the cases of systemic blastomycosis which have been reported the lungs were primarily affected, and in the case recorded above the disease existed in the lungs for several months before the final illness.

J. M. H. M.

ON PAGET'S DISEASE. E. J. Rosenberg. (*Monats. f. prakt. Derm.*, September 15th, 1909, p. 235.)

In this contribution, after reviewing at considerable length the history of the disease, the writer reports two cases which occurred at his clinic in Warsaw. The first case was typical of the disease in every way and occurred on the left nipple and surrounding skin of a woman, aged 67 years. The second case was in a woman, aged 70 years, and was unusual in that the disease was on the vulva and affected both labia majora. The appearance of the skin of the labia was characteristic of Paget's disease. A histological examination was made of both cases and showed similar microscopical appearances. The stratum corneum was very slightly affected and the granular layer was present. The prickle-cell layer was thickened and the interpapillary processes lengthened. The prickle-cells in the deeper layers had undergone the change peculiar to Paget's disease and showed the rounded degenerate forms. The upper part of the corium showed definite inflammatory changes, with dilation of the blood-vessel of the papillary and sub-papillary layers, and a dense infiltration consisting chiefly of plasma-cells. In addition to these cells were small foci of cells, which were of epithelial origin and were proliferating rapidly. The glands of Bartholini in the vulva seemed normal. According to the writer it could not be decided from the histological pictures whether the changes in the epidermis were primary or secondary to the inflammatory disturbance in the upper part of the corium.

J. M. H. M.

ERYTHEMA INDURATUM OF BAZIN. G. A. Gavazzeni. (*Monats. f. prakt. Derm.*, September, 1909, Bd. 49, p. 249.)

A case of Erythema induratum and one of "folliclis" are described in this contribution. Case 1 was that of a young woman, aged 17 years. Her family history was negative with regard to tuberculosis. The patient was a healthy-looking young woman. Since childhood she had suffered from a weak peripheral circulation and chilblains. The characteristic lesions of Bazin's disease were present on both legs.

On March 19th, 1909, an injection of $\frac{1}{10}$ mgrm. of the old tuberculin was given, and as a result of this a slight general reaction occurred but no local reaction. Two days later an injection of $\frac{2}{10}$ mgrm. was given, which was followed by a marked general reaction and a local change, consisting of swelling, œdema, and redness of the lesions. Some days later at the site of the injections on the arm two red, painful swellings about the size of five-mark pieces developed. These gradually disappeared, leaving pigmentation.

The histological appearance showed that the affection was essentially a vascular lesion. The vessels were dilated and surrounded by a cellular infiltration. In places the endothelium had proliferated and a thrombosis was observed. Considerable numbers of giant-cells were present, and in places caseation and necrotic changes were noted.

Case 2 was that of a young man, aged 18 years. His parents had died of tuberculosis of the lungs. The patient had enjoyed excellent health till two years before this paper was written, when lesions suggesting folliclis appeared on his right leg. These disappeared, but similar lesions developed on his left leg and had remained since then. A histological examination of the lesions showed no change suggestive of tuberculosis.

J. M. H. M.

REVIEWS.

LE SÉRO-DIAGNOSTIC DE LA SYPHILIS.*

In this excellent piece of work, Dr. Pierre Mauriac gives the details of the exhaustive Wassermann test investigation he has been engaged in for some time past. His conclusions are (*italics* are his):

(1) At the moment the methods based on the deviation of the complement are the only ones allowing of the sero-diagnosis of syphilis in a practical and scientific manner. (2) *Wassermann's method* and the methods derived from it are apparently the most correct and the least complicated. (3) In the hands of investigators thoroughly well grounded in the method and working in a well-equipped laboratory, the sero-reaction is of the greatest service to the clinician. (4) *The specificity of the Wassermann test is not absolute*, for the blood of patients suffering from sleeping-sickness, dourine, leprosy, deviate the complement. (5) In our country, the blood of syphilitics only giving positive results, the specificity of the Wassermann can be practically admitted. (6) *A positive sero-reaction is a precious indication in favour of syphilis.* (7) *A negative sero-reaction does not allow one to conclude* against syphilis, nor does it indicate that a syphilis is cured. (8) But a *series of negative sero-reactions*, in the same subject, at regular intervals, *apart from periods* of treatment is in favour of the extinction or the great attenuation of the infection. (9) The Wassermann test *usually points to general paralysis as being of syphilitic origin.* There is no concordance between the results furnished by an examination of *the blood* and that of the *cerebro-spinal*

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* *Le Séro-diagnostic de la Syphilis* (*Bordeaux Thesis*, 1909). By PIERRE MAURIAC. Pp. 179.

fluid. (10) Wassermann's test shows the important part played by *syphilis* in *mental affections.* (11) *Mercurial treatment notably influences the results obtained by the test,* and appears to lead to a disappearance of the anti-bodies. (12) Mercury *in intra-muscular injections* appears to have a *much more powerful and much more lasting effect* than when it is administered *by the mouth.* (13) *The effects of treatment on the sero-reaction are much more marked the more recent the syphilitic infection.* The effects are much more marked in the primary and secondary periods than in the tertiary stage. (14) *The Wassermann test* is in favour of *early, intense, abortive treatment* of syphilis in the early stages of the infection. (15) By revealing the presence of anti-bodies in cases of latent syphilis and demonstrating their disappearance as a result of treatment, the Wassermann test confirms once again the importance of *systematic and prolonged treatment of syphilis,* even in the absence of any symptom. (16) The Wassermann test will help to clear up a good many *doubtful cases, both medical and surgical.* (17) The Wassermann test *becomes positive fourteen to fifteen days after the appearance of the chancre,* that is, well before the secondary symptoms. (18) The Wassermann test shows that *syphilis, either denied or ignored, is much more common in women than in men.* (19) The investigation of anti-bodies will render real service in the *selection of wet-nurses and the surveillance of congenital syphilitics* (Colles and Profeta). (20) The Wassermann test will give useful indications with regard to the cure of a syphilis or in the case of marriage. (Bibliography).

G. P.

LECTURES ON HYSTERIA.*

In the preface the author states that he has taught the views expressed in this book for twenty years, but these particular lectures were delivered on different occasions to different audiences between the years 1896 and 1907.

The lectures themselves deal with the subject of hysteria in a thorough and practical manner, and are largely founded on clinical cases which have come under Dr. Savill's observation, some of which are illustrated by excellent photographs. A book written in the form of lectures must necessarily mean a certain amount of repetition, and, as we read the book, this appears to interfere somewhat with the clear and smooth expression of the author's views.

A very considerable portion of the book has but little interest to dermatologists, inasmuch as it deals with such subjects as hysterical motor disorder, the pathology of hysterical attacks, hysterical joint disorder, but all through we are brought face to face with the theory that the origin of hysteria lies in disturbances of the vaso-motor system. This theory is brought to bear with considerable skill to explain the various clinical phenomena of hysteria, but whether this factor alone is quite sufficient to account for all the phenomena of certain cases we are not sure, and we have an idea that the author is, perhaps, not absolutely sure.

Some of the hysterical skin cases quoted are of distinct interest, and among them we notice the case of a boy, aged 8½ years, in whom raised urticarial wheals appeared whenever he worried over his lessons or was teased by other boys. The attacks lasted for from one to three hours if the emotional cause was removed. The boy was an extremely nervous, excitable, and sensitive child. The case is of interest taken in connection with similar cases, and especially one reported by Kreibich and Sobotka in the recent number of the *Archiv für Dermatologie und Syphilis*. Some interesting cases of sclerodactylia and erythromelalgia are also quoted, but occasionally a statement, such as Erythema nodosum, one of the best-known forms of erythema, being almost confined to young hysterical women with menstrual irregularities, requires some qualification.

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* *Lectures on Hysteria.* By THOMAS D. SAVILL, M.D. Henry J. Glaisher, London, 1909. Pp. 262. Price 7*s.* 6*d.* net.

In conclusion, we can confidently recommend the book as one which treats the subject of hysteria with great ability, and which cannot but prove of great interest to many dermatologists.

J. L. B.

DE L'EMPLOI DES EAUX SULFUREUSES DANS LE TRAITEMENT DE LA SYPHILIS.*

IT appears that Fracastor in 1546 was the first to advocate the use of sulphur in syphilis, but although several observers wrote in favour of it after this, it was not until the eighteenth and the commencement of the nineteenth century that sulphur received the attention it deserved. The chief uses of sulphur are in malignant cases of syphilis and those cases accompanied by anæmia.

Where mercury upsets the digestion, sulphur often counteracts it. Sulphur increases the number of red blood-corpuscles, and, above all, has the power of eliminating any mercury which has accumulated in the system.

It is contra-indicated in arterio-sclerosis and nervous subjects. Since its employment is most strongly indicated in the first few years of the disease, neither of the above contra-indications militate against its general use. The sulphur can be taken in any form—baths, douches, inhalations, and vapour baths, and best given while the patient is taking mercury.

Dr. Bertier's monograph is well worth reading, since he has in a most interesting and concise way shown the importance of prescribing a drug which has the double advantage of not only benefiting the patient, but being at the same time cheap.

J. McD.

LA PHOTOTHÉRAPIE: LES ADVANTAGES DANS LE TRAITEMENT DU LUPUS VULGARIS.†

THE first part of the book is devoted to describing Finsen's lamp, its technique and uses. This part is also fully illustrated, and much care has been taken to describe and depict the various automatic compressors, which are so valuable in both the Finsen and the Finsen-Reyn lamps, obviating the necessity of manual pressure. Out of 804 patients treated (1) 412 were cured; (*a*) no recurrence after two to six years, 124; (*b*) no recurrence after a continual observation of less than two years, 288; (2) nearly cured, 192; (3) under treatment at the time, 117 (4) treatment interrupted, 83.

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* *De L'Emploi des Eaux Sulfureuses dans le Traitement de la Syphilis.* By Dr. LOUIS BERTIER.

† *La Photothérapie: Les Advantages dans le Traitement du Lupus Vulgaris.* By Dr. LÉON FRIEDMANN.

Chapter II describes the modifications of Finsen's lamp and methods. First mention is made of Lortet and Genoud's apparatus; although little used it formed the basis upon which the Finsen-Reyn lamp was constructed. The Uviol lamp and Kromayer's lamp are both admirably described, but unfortunately the author does not augment his description with a table of the results he has obtained from their use.

The last chapter of the book contains a short description of the use of electric light, eosin and phosphorescent substances, as they affect phototherapy.

The book contains very little that is really new, but is valuable in that it contains an excellent bibliography.

J. McD.

NEW DRUGS, PREPARATIONS, ETC.

SPHAGNOL PREPARATIONS.

SPHAGNOL is a distillation product of peat containing creosote and sulphur, and in its composition and properties is allied to ichthyol. A number of different preparations have been made with sphagnol, such as a medicated soap, containing 15 per cent. of sphagnol, a toilet and nursery soap with 5 per cent., a shaving soap with 5 per cent., an ointment containing 10 per cent., and suppositories with 10 per cent. The soaps lather well, are pleasant to use, and non-irritating, and give a feeling of softness to the skin. The ointment may be used in the same type of cases which are benefited by ichthyol, namely, mild forms of psoriasis, dry eczema, and seborrhoic dermatitis, and the suppositories have been recommended for the treatment of hæmorrhoids.

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A NOTE ON THE HISTOLOGY OF DERMATITIS EXFOLIATIVA NEONATORUM.

By E. F. SKINNER, M.A., M.B.Cantab., M.R.C.P.,
Clinical Assistant to the Department for Diseases of the Skin, Sheffield Royal Hospital; Medical Officer in Charge of X-Ray Department, Children's Hospital, Sheffield.

In 1878 Ritter (1) described under the name of "Dermatitis exfoliativa neonatorum" a disease occurring in new-born children which bore some resemblance to exfoliative dermatitis in adults, and at times presented features suggesting a type of Pemphigus foliaceus. Since then other observers have described cases, but the disease is one of considerable rarity. The following case corresponded in its clinical features with the more severe type of the disease as described by Ritter. Unfortunately I only saw the child after its death, so that the clinical notes are somewhat scanty, but below is a short statement of its course so far as I was able to obtain it.

The child was a full-time male, born September 1st, 1909; the mother, a primipara, was quite well during pregnancy, and labour was normal, being conducted by a midwife, the only feature of note being a slight tear in the perinæum. The baby appeared quite healthy, took the breast well, slept well, and was well-nourished. Nothing unusual was noted until September 9th—eight days after birth—when the mother found a small spot on the child's right cheek, close to the angle of the mouth. This spot rapidly became a bleb filled with "yellow water," and in a few hours burst, leaving a red, raw surface beneath. During the next twelve hours similar spots appeared at the opposite angle of the mouth, and very soon the whole of the skin round the mouth had peeled off, exposing a red, beefy surface. The next twenty-four hours saw the condition rapidly spreading downwards; spots, becoming blebs, formed rapidly on the neck and chest, ran into each other and burst, displaying a raw underlying surface. The blebs began as small round vesicles, but coalescence quickly distorted their outlines, and some of them formed great irregular-shaped bags of fluid lying on the skin. From the chest the condition spread to the abdomen, back and limbs, so that by September 11th, forty hours after the commencement, practically the whole of the body was affected.

Death occurred on September 13th, at 3 a.m., eighty-four hours after the first appearance of the spot on the cheek. There was no fever during the short illness, nor had there been any signs of it previous to the appearance of the initial lesion. I saw the child six hours after death, and its condition was as shown in the photographs (Plate I, figs. 1 and 2), and the mother said that its appearance had been the same for the last two days. The general aspect at once suggested that the child had been very badly scalded, the upper epithelial layers lying in thick loose folds over the underlying red skin; many of these folds had disappeared, and others showed rolled-up edges. The body surface where the corneal layers were absent was wet and sticky, but no signs of pus were present anywhere on the surface, the exudation being apparently entirely serous. The body was extremely offensive, though there was no evidence of gangrene at any part of the surface. Over the bony prominences the redness of the exposed epidermis was much deeper in colour than the rest of the denuded areas.

The mother appeared quite well, and beyond the tear in the perinæum, which was rather dirty with considerable purulent discharge, showed nothing abnormal. The father was in good health; in neither parent was there any evidence of syphilis. The actual condition of the child seemed to be one in which there had been exfoliation of the upper layers of the epidermis, these having been mechanically pushed up from below by a very rapid serous exudate beneath.

Unfortunately I was unable to make any cultures from the serum still moistening the mucous cell layer, but a small piece of skin was excised from the dorsal aspect of the trunk at a point where the horny layers were being separated, and this paper is intended more particularly as a record of the histological changes found than a complete case description, since my clinical notes are so meagre.

The pathology of the condition is still obscure, and a large number of hypotheses have been advanced from time to time by different observers. Ritter (1) described it originally as a dermatitis of pyæmic origin, but since then many other suggestions have been made; thus whilst Caspary considered it an epidermolysis, Kaposi (2) thought it merely an exaggeration of the physiological desquamation which occurs shortly after birth, and Brocq (3) has described it as a variety of pemphigus. Various organisms have been described in connection with the disease, and in one instance Winternitz (4) found the *Staphylococcus aureus* and *albus* in the blood. The latter author has investigated the histology, but he says beyond the presence of more pronounced hyperæmia and œdema the conditions differ very little from those of ordinary exfoliative dermatitis in adults. The following histological description is based on the examination of a large series of sections treated by alcohol dehydration and paraffin embedding, various stains being employed, hæmatoxylin and eosin, Gram's stain, Weigert's, Victor Bonney's modified triple stain, thionin blue, Pappenheim's stain, etc.

In view of the serious and rapidly fatal clinical condition the histological characters are astonishingly few, and on first examining a section one is disappointed at finding so little from which to draw any definite conclusions, but closer examination reveals the fact that there are some very interesting features in the sections, and it will perhaps be as well to begin with the description of the changes occurring in the deeper layers of the skin, proceeding gradually towards the surface and the exfoliated horny layer.

The hypodermal connective tissue, that is, the tissue below the subcutaneous fat, is seen to be very vascular (Plate II, fig. 1); the blood-vessels are much more numerous than usual and markedly dilated. The arteries, except for their dilatation and increased number, are normal, showing no sign of arteritis. The veins in many cases will be seen to be filled with coagula, which in most instances entirely fill the lumen of the vessel; the possible significance of this condition will be mentioned later. A very striking feature is the absence of any perivascular infiltration, a fact which is characteristic of the whole histological picture, to which further reference will be made. Above this hypodermal tissue the thick layer of subcutaneous fat shows no unusual features. The derma, where one would expect to meet with considerable changes, is strikingly normal. It will be seen in Plate II, fig. 1, that the derma is very sharply divided into two distinct regions, the upper and narrower of which is composed of loosely woven connective-tissue fibres, between which are a few young fibroblasts and plasma-cells. This narrow band of loose connective tissue lying just beneath the epidermis is very vascular, and forms a striking feature of the section. This sub-papillary vascular plexus is much increased, both in the number of the vessels and in the size of their lumina; in some sections a vessel may be followed easily through many microscopic fields, so wide is its lumen and so obvious are its branchings. Here, as in the hypoderm, there is practically no cellular infiltration, only a few of the vessels showing a narrow sleeve of such inflammatory cells. Plate III, Fig. 3, is a drawing of a portion of the derma, and it will be seen from this how great is the vascularity of the part; the upper portion shows the loose connective tissue immediately overlying the more dense fibrous part to be next described. This deeper part of the derma is made up of connective tissue of a much firmer texture than the upper band; the fibres are coarser, longer, and much closer together, there are fewer connective tissue cells, and the whole represents a more stable, older tissue. This is normally the least vascular part of the derma, being the area between the sub-papillary and the hypodermal plexuses, and fewer vessels are seen in the sections, but where such do occur they are very much dilated. Apart from the groundwork of the derma, there is little or no histological change, the glands show no alteration, and no surrounding infiltration. Another feature which is noteworthy is that the papillæ are practically non-existent as such; the papillary line, instead of showing regular innumerable finger-like projections, is represented by an undulating line which at times becomes quite flat.

In the epidermis the cells of the mucous layer form a much narrower band than usual; instead of being some six or seven cells deep, the layer is at the thickest only four or five cells deep, and in places is represented by a single layer of cells only (Plate II, fig. 1). Where the layer is thickest the lower cells are fairly normal in type, but in the thinner portion they are polygonal instead of normal columnar type.

There is a marked difference in staining reaction between the cells of the upper one or two layers and those of the deeper strata, the former taking up the stain badly, and showing as a much lighter coloured zone (Plate II, fig. 1; Plate III, figs. 3 and 4). This is due to a form of degeneration which will be described shortly. Another striking feature of this layer is the presence of œdema. This is very marked, and is evidenced by the wide separation of the cells. Visible in the basal layer, it becomes much more prominent in the middle strata, and at the upper part is so great that individual cells are seen in a large fluid-filled space (Plate III, fig. 4). Although this œdema is a constant feature of almost every inflammatory skin-lesion it is rarely present to such an extent, nor is it accompanied by such marked cellular degeneration.

The prickle-cells depend for their nourishment on the plasma which circulates freely between them, and any interference with their connections must seriously hamper their assimilative capacity. This layer has been described as a single cell, so closely are its individual elements linked up by means of the "filaments" or "prickles," but it has been shown by Biesiadecki (5) that these cells still retain their vitality even when separated entirely from surrounding cells by œdema, and that after the œdema has disappeared these cells may reunite with their fellows without being any the worse for their temporary separation; but though this is the case in transient œdema, yet in most pathological conditions the œdema is prolonged to such an extent that the cells degenerate, and do so in a characteristic manner, two types being well recognised. To these Unna (6) has given the names of "ballooning" and "reticular degeneration" respectively. The balloon-cells are formed by some peculiar degeneration of the spongioplasm of the cell, which becomes round and swollen, still retaining its nucleus intact, whilst the reticular form of the process gives rise to an enormously distended cell in which the nucleus is seen to be irregular in shape, pushed to one side, and the body of the cell is visible as a fine protoplasmic meshwork of threads, the meshes of which vary much in size. In the sections from this case the latter form of degeneration of the prickle-cell layer is very obvious, and to this is due the feebly staining appearance of the upper layers of the epidermis. Plate III, fig. 4 is a drawing showing the reticular degeneration, which is also well shown in the micro-photograph (Plate II, fig. 2). The balloon type of degeneration is also present, though to a much less extent. Both these types have a common cause, viz. intercellular œdema, and wherever this occurs the process of keratinisation is interfered with as in the present case.

It is generally admitted that there is some intimate relationship between keratinisation and the formation of eleidin (7), though exactly what that relationship may be is at present uncertain. Where keratinisation is incomplete the stratum granulosum disappears. Where degeneration has occurred to such an extent as in the cells of the prickle layer in these sections, in which almost all the filaments have disappeared, keratinisation is impossible since compression of these filaments constitutes one of the main factors in keratinisation. And since the formation of eleidin is in some intimate way connected with the process of keratinisation, one would expect the stratum granulosum to be here absent, as, indeed, is found to be the case in most parts of the tissue. Though the stratum granulosum is thus absent, there is a well-marked stratum lucidum which can be followed along the whole length of the section, forming a distinct pale layer directly above the prickle-cells.

We have next to consider the stratum corneum, which is, at any rate clinically, the part at fault. The exfoliation involves this stratum, which is seen to be lifted up bodily from the underlying tissues, the line of junction, where separation has not yet occurred, being shown in the low-power micro-photograph (Plate II, fig. 1). Examination under a high power reveals very little in this stratum, beyond the fact that the lower layers are composed of epithelial cells whose outlines are still visible, giving an almost reticular appearance to this part of the structure, and whose nuclei are here and there retained (Plate II, fig. 2).

Finally, a very noticeable feature of these sections is the presence on the surface of the denuded skin of a rich growth of organisms. These organisms show well in all the sections examined, and form a definite crust along the outer face of the stratum lucidum (Plate I), fig. 3).* They are limited in distribution, being entirely confined to the surface and showing no tendency to invade the tissues below, although, where depressions occur in the surface, as, for instance, the site of hair-follicles, etc., the organisms dip in; with this exception, however, they remain strictly limited to the surface along which they have grown as a thick coating of nearly even depth the whole length of the section. They seem, however, to stop short at the point where the corneal layers are still attached to the stratum lucidum below, only a few being found beyond this point of junction. In appearance these organisms are small cocci, which grow, or at any rate are found, in short chains, sometimes only three or four, sometimes of twenty or more individual elements, thus appearing to be a streptococcus. In most places this arrangement is masked by the fact that chains of cocci have developed side by side, one lying over the other, and these short parallel chains give the appearance of a staphylococcus. I am inclined to think, however, that they represent a streptococcus; at any rate the individual cocci are much smaller than either *Staphylococcus aureus* or *albus*. They stain with all the usual stains, and are not decolorised by Gram's method. Unfortunately it was impossible to make cultures from the skin, and the above observations refer merely to the morphology of the cocci as they appear in sections.

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* The thick black line is entirely composed of the cocci in question, the individual elements being ill defined because focussing at this high magnification of such a thick layer is almost impossible.

From the above histological picture presented by this case the main features may be stated as follows:

(1) The absence of any polymorphonuclear infiltration in any part of the tissue of such an extent as might have been expected had it been of inflammatory origin.

(2) The great vascular dilatation present in both the dermal and hypodermal vascular beds as well as in the sub-papillary plexus, together with a very marked increase in number of the latter vessels.

(3) The marked œdema of the prickle-cell layer, with its consequent cellular degeneration and interference with keratinisation.

(4) The appearance of a distinct growth of micro-organisms, probably of a streptococcal nature, along the surface of the denuded skin, the growth forming a kind of crust.

(5) The fact that a very large proportion of the veins in the derm and hypoderm are filled with clotted blood (Plate III, figs. 1 and 2).

The case in its clinical aspect closely corresponds with Ritter's original description, in which he says: " . . . it occurs generally between the second and fifth week, rarely before the end of the first week, beginning with diffuse redness on the lower part of the face, which spreads rapidly and becomes universal in the course of a few days—the extremities being the last to be affected. The mucous membranes of the mouth and nose participate, and fissures form at the corners of the mouth. Synchronously with the hyperæmia exfoliation of the epidermis begins upon the surface first affected, an outbreak of vesicles appears, the exfoliation occurring afterwards in the usual way, or again, the horny layer over the intensely red surface is lifted up by fluid accumulation into large, irregularly shaped flaccid bullæ."

Ritter observed 297 cases at Prague, and definitely differentiated the type from a large group of ill-defined diseases characterised by bullæ and exfoliation. But though clinically quite distinct this condition shows no very definite pathological features, and much doubt still exists as to its exact ætiology. Thus, as has been mentioned before, Brocq classes it with the pemphigus group, whilst Bohn (8) states it to be an acute limited dermatitis accompanied by more or less exudation, and connected with that normal desquamation which takes place during the first period of life. Caspary, on the other hand, objects to it being classed as a dermatitis at all. He argues on the ground of the absence of fever, which could not be the case if the process were an inflammatory one, universal, and occurring in babies, who respond so immediately to any slight irritation by an elevation of temperature. He thinks that the disease represents an epidermolysis of unknown nature with secondary hyperæmia of the cutis, and is inclined to regard it as an acute disturbance of nutrition occurring in those external layers of skin which do not contain blood-vessels.

I think the term "pemphigoid" as used by Brocq tends rather towards confusion than elucidation, since little enough is known about the large, undefined group of diseases classed as "pemphigus," and to further modify this class would render it even more nebulous.

If the pathology is insufficient as yet for a determinate name, then, since any other classification must be merely temporary, there is no reason why the term "Ritter's disease" should not be retained, as it recalls the original describer and is a safe one, since it implies no ætiological ideas, which, in view of further investigation, might have to be changed.

That the condition is of an inflammatory nature one can at first sight hardly doubt, but closer investigation leads to considerable hesitancy. In the first place, Caspary's objection to its inflammatory origin on the ground of the afebrile character of the disease carries considerable weight, but it is not uncommon to find very rapidly advancing inflammatory conditions marked by an afebrile course, the virulence of the toxæmia apparently paralysing the thermogenetic centre. Again, in this condition, where large areas of epidermis are denuded of their corneal layers, which layers contain abundant fat and are impervious to water, preventing a too rapid evaporation of the surface moisture and thus normally tending to minimise heat loss, one would not be surprised at the fact of an afebrile condition resulting, particularly as, after all, our statements of temperature are mainly the temperature obtaining on or near the surface of the skin. Thus the value of this contention of Caspary is more apparent than real. But of much more weight, as tending to show that the condition is non-inflammatory, is the absence of the most constant sign of inflammation in the sections, namely, polymorphonuclear leucocytic infiltration. It has come to be generally regarded as almost a *sine quâ non* of the inflammatory reaction that there should be exudation of these cells, and if one accepts this criterion the conclusion is forced upon one that Ritter's disease is non-inflammatory, since the absence of any such cellular infiltration is the most striking feature of the histology. But it is by no means impossible to imagine a process which would call out an exudate of "serum" whilst the chemotactic influence on the leucocytes was absent. In the infinitely complex reactions which go to make up the organismal response to any particular irritant one or other factor is always predominant, and though usually the cellular factor fills that *rôle*, it by no means follows that because such activity is absent in any particular case there is no "inflammatory" reaction. One must broaden one's definition of inflammatory reaction. However, looked at from the point of view of cellular activity, Ritter's disease is distinctly non-inflammatory.

To what, then, can we ascribe the condition? To what is due the enormous vascular dilatation and outpouring of serum which has produced the striking œdema of the layers above the sub-papillary vascular plexus, and has had the result of mechanically pushing off the upper corneal strata of epidermis? For here, instead of the œdema being circumscribed with the formation of vesicles varying in size, its outpouring has been sufficiently rapid to form large collections under the horny layer and finally to rupture this.

This I take to be the true pathology of the condition, and we must seek for some cause internal or external which has produced dilatation of existing vascular channels and opened up a large number of fresh channels, with the result of a rapid serous exudation into and amongst the cells, which are usually nourished by a steady circulation of exuded serum. Are there any features in the histological picture which might suggest such a cause? I think there are undoubtedly signs which are pregnant with suggestion.

If we look at the surface of the skin, particularly where the epithelium is exfoliated—that is, where the reaction is most intense—we find a peculiar feature in the large mass of small cocci which I have noted before. The presence of these cocci and their peculiar arrangement is striking; they form, as it were, a thick "coating" to the underlying structures, and since they are present chiefly in that part where the exfoliation has occurred, it at once suggests itself that here we may have cause and effect. That these cocci are not the usual cocci found on the surface of the skin I feel convinced; though, in the unfortunate absence of any cultural data, any positive opinion on this point is impossible. If these cocci are assumed to be the causative agent, they have in a short time produced very widespread changes in the tissues, and that *without apparently penetrating into them.* Such a result seems rather improbable, and since in coccal infections generally we find a well-marked cellular inflammatory reaction, it seems fair to assume that the cocci are not the *fons et origo mali*, and that we must look for some other cause for the condition. The serum poured out in such abundance from the vessels of the subpapillary plexus tends to collect into large "lakes" on the surface beneath the horny layer, which from its nature offers an impenetrable barrier to the further passage of the fluid until the pressure becomes sufficiently high to break through the obstruction. In the resulting state of affairs the moist surface of the denuded mucous layer, bathed in serum, and loosely covered for a large extent by the impervious horny cuticle, we have a medium eminently adapted to the growth of organisms of all kinds, and it is not surprising to find in this medium a free growth of cocci which merely bear an accidental relationship to the clinical condition.

Such a view readily explains the fact that where the corneal layers are not yet separated the surface cocci are absent or very scanty. We may fairly conclude that the cocci are not the cause of the condition, but merely represent a secondary infection, and that the origin of the vascular dilatation is still to be sought.

Vascular dilatation is a very common pathological condition in various skin-diseases, in fact, in many the only histological feature present. The various urticarial and erythematous processes show such dilatation *par excellence*, and it is customary to state that such dilatation depends on toxins either produced in the organism or introduced from without. There is much evidence in favour of such a view, and there seems no valid reason for doubting it; but when we have stated that the lesions in any particular case are due to the conveyance of toxins to the skin we have advanced very little towards clearing up the ætiology of that condition. True, in certain cases —fish urticaria for instance—it is known that there is a definite relationship between the toxin and the skin-lesion, for it has been experimentally demonstrated that extract of mussel does produce lesions identical with those found in urticaria and characterised histologically by vascular dilatation. This being so, it is often a temptation to extend this hypothesis too far, and to state that any particular skin-lesion of doubtful ætiology is due to some internal toxin. So long as we recognise that by using such an expression we merely put a term on our ignorance, so good, and under these conditions the use of the expression is legitimate, and we may be allowed to keep it, since it denotes a possible hypothesis and one with a workable basis. One may then say that the vascular dilatation in the case under discussion is probably the outcome of the action of some toxin of widely extended distribution; but to formulate a view as to the exact nature of this particular virus would, on the present data, be mere speculation. One naturally thinks of syphilis as a possibility, since the toxin produced by the *Spirochæta pallida* does in certain cases produce a clinical condition not very unlike that of the present case (Pemphigus neonatorum syphilitica). However, there was nothing to suggest the presence of this factor, both parents strongly denying the possibility; and I had no reason to doubt their word, particularly as they were anxious to know the cause of the, to them, terrifying condition of their first offspring. For or against any other form of toxæmia I can advance no suggestion, but I agree with Caspary that "the condition probably represents an epidermolysis," . . . "due to some disturbance of nutrition in the cells normally unsupplied with blood-vessels," but I fail to see why he should regard the hyperæmia as *secondary*. Whatever this "disturbance of nutrition" may be, it has for its immediate effect the dermal hyperæmia which, in this case, is so intense as to cause the mechanical throwing-off of the more superficial horny layers of the skin.

There is one other feature to which attention was directed in the previous remarks on the histology, and that is, that a large number of the veins in the derm and hypoderm are filled with coagula. Now, there is nothing unusual in the fact that veins in a section should be full of clotted blood when microscopically examined—the process of fixation, etc., tending to harden any blood there may have been in the piece of tissue cut for examination. But the coagula in these veins are very definite, and different from those usually seen. In the first place many of the lumina are full, that is, the clot extends quite up to the vessel wall, and has not shown the usual contraction which a post-mortem clot presents in a vessel after microscopical preparation. Again, in one or two the leucocytes are very obvious in the coagula and are arranged round the periphery, that is, close to the vessel-wall (Plate III, fig. 3). Thirdly, red blood-corpuscles do not show visible outlines in the coagulum itself, which is represented by a homogeneous material staining pinkish-brown, enclosed in which are the leucocytes (Plate III, figs. 1, 2, 3). Such an appearance suggests that the clot is composed chiefly of blood-platelets. Again, in some of the vessels thin fibrils can be seen passing inwards from the endothelial cells lining the vessel to the coagulum (Plate III, figs. 1, 2), which fibrils are composed of fibrin passing from the endothelial cells to the so-called coagulation centres (9). Besides these radially arranged fibrin filaments there are indications of concentrically arranged layers of fibrin close to the vessel wall, and in some of the larger vessels the so-called "stellar fibrin figures" (10) may be seen close to the wall along with a diffusely staining mass of fibrin, platelets and leucocytes, the rest of the lumen being free. These appearances suggest the presence of thrombosis or ante-mortem clotting; the blood-stream from some cause has been slowed, or the endothelium has been damaged, with the liberation of fibrin ferment and a consequent production of a fine fibrin mesh, making its appearance first nearest the vessel wall, the red cells moving along in the axial stream whilst the leucocytes have been arrested in the slower peripheral current; but finally, from further action of the original cause together with increase in the mass of fibrin and platelets on the vessel-walls the axial stream has been stayed, with the result of complete thrombosis. Such an interference with the circulation would account for the clinical picture with which we are here presented, and would also fit in with the remaining histological details. Thus thrombosis occurring in veins naturally produces rapid œdema behind, that is, on the capillary side of the obstruction, and in such a structure as the upper epidermis, where the elements are arranged in horizontal sheets composed of adherent though dead cells, such rapid œdema would tend to mechanical separation of the layer or layers, and such an hypothesis would be compatible with the marked absence of cellular infiltration in the tissues. But even if thrombosis is a possible cause of Ritter's disease we have still to answer the question, "What has led to the thrombosis?" Clearly embolism is out of the question, since we must assume the condition to be generalised. It is possible that we are here dealing with an "agglutination" phenomenon; that there is circulating in the blood-stream a definite hæm-agglutinin which has led to the *intravitam* clotting. This is, of course, merely hypothetical, but in view of the rapidly fatal issue, the afebrile course, and the absence of any clinical factor pointing to a localisation of the mischief in any particular organ, an acute toxæmia seems the most simple and probable explanation. Such toxæmia must be of generalised distribution, and so acute as to produce death in eighty hours, and yet the only visible sign in the skin is an extensive dilatation of small blood-vessels with venous thrombosis and œdema. Unfortunately I was only able to examine the skin histologically, no post-mortem being obtainable, and therefore what other conditions, if any, might have been found in other organs it is impossible to say, but if the hypothesis of thrombosis due to an agglutinative action on the blood of some circulating toxin is correct, then it would naturally occur whenever conditions were favourable; hence this would take place generally throughout the body, and such a widespread change as thrombosis in all veins whose calibre was sufficiently small could have only one result—death—and that, too, in a very short time.

I would therefore suggest, as a possible hypothesis to explain the histology of Ritter's disease, that *it is due to a hæm-agglutinin circulating in the blood-stream and producing intra-vitam clotting.*

Summary.—The histology of the condition is characterised by a lifting up *en masse* of the horny layers of the epithelium from a rapid exudation of serum tending to collect into "lakes" on the surface, which exudate is obviously the result of the striking œdema noticeable in the prickle-cell layer, which in its turn is due to the vascular dilatation prevalent in the dermal and hypodermal vessels. These facts, together with the presence of cocci on the surface, probably due merely to accidental contamination, and the absence of any leucocytic infiltration, constitute the most striking histological features. If the exudation of polymorphonuclear leucocytes is considered to be an essential sign of inflammation, then Ritter's disease is not a *dermatitis.*

Beyond this, however, there are no facts to bring forward, and whilst the thrombosis hypothesis is a possibility, it is, as I am well aware, beset with many difficulties which must be met before it can be accepted.

In conclusion, I must express my sincere thanks to Dr. Arthur Hall and Prof. Beattie for much kindly help and advice in preparing this paper, to the latter of whom I am also indebted for his kindness in placing the laboratory at my disposal. I must also express my thanks to Prof. Macdonald for his valuable help in taking the microphotographs.

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EXPLANATION OF FIGURES.

Plate I, Figs. 1 and 2.—The photographs were taken about six hours after death.

Plate I, Fig. 2.—Micro-photograph; the dark line represents a mass of cocci growing along the surface. × 2250. (Focussing was very difficult owing to the thickness of the layer of cocci.)

Plate II, Fig. 1.—Micro-photograph, showing general aspect of epidermis and corium, at the point where the corneal layers are being pushed off. × 250.

Plate II, Fig. 2.—Micro-photograph of prickle-cell layer to show "reticular degeneration" of a prickle-cell. Note the wide separation of the cells. The degenerated cell is represented by an indistinct mass of protoplasm showing a coarse mesh with a nucleus whose upper border is alone visible. × 2250.

Plate III, Figs. 1 and 2.—Drawing of vessels of corium, showing clots and "fibrin-stellar figures" and recent granular fibrin. × 1000.

Plate III, Fig. 3.—Drawing of whole thickness of section, showing degeneration of "mucous layer," vascular dilatation in derm with clots in the vessels. Note the absence of any cellular infiltration. × 700.

Plate III, Fig. 4.—Drawing representing the œdema occurring between cells of the prickle layer. Also roughly shows "reticular degeneration." × 1000.

PLATE I.

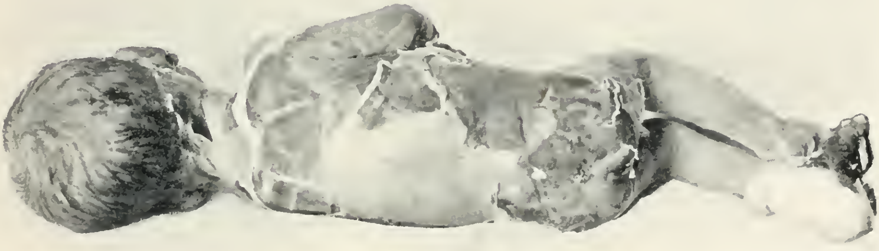

FIG. 1.

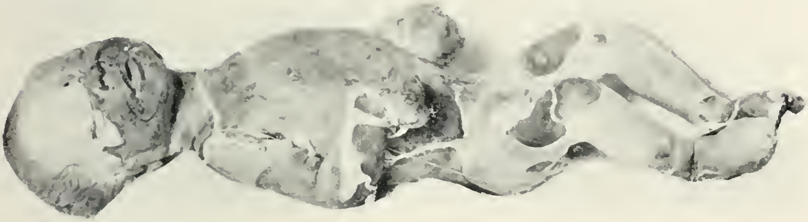

FIG 2.

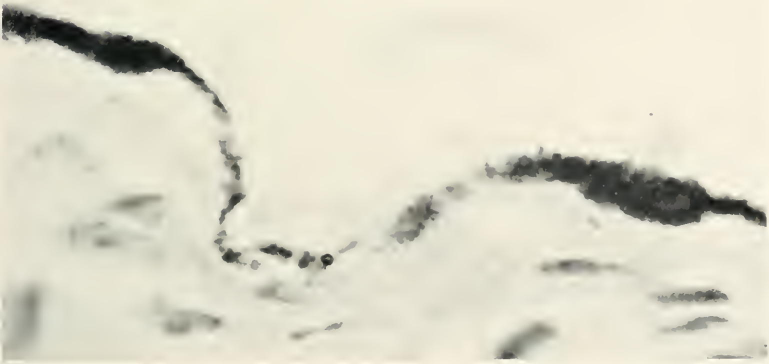

FIG. 3.

TO ILLUSTRATE DR. SKINNER'S ARTICLE ON THE HISTOLOGY OF DERMATITIS EXFOLIATIVA NEONATORUM.

PLATE II.

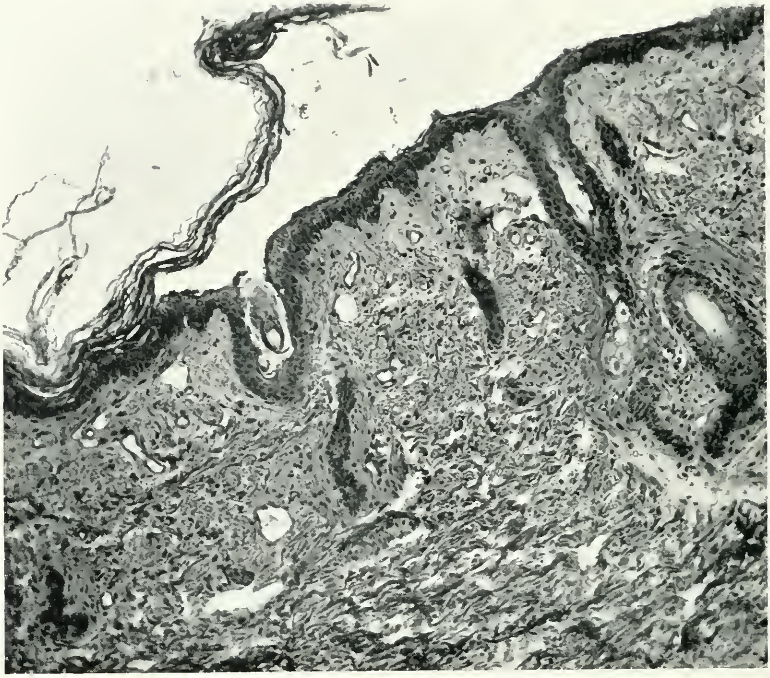

FIG. 1.

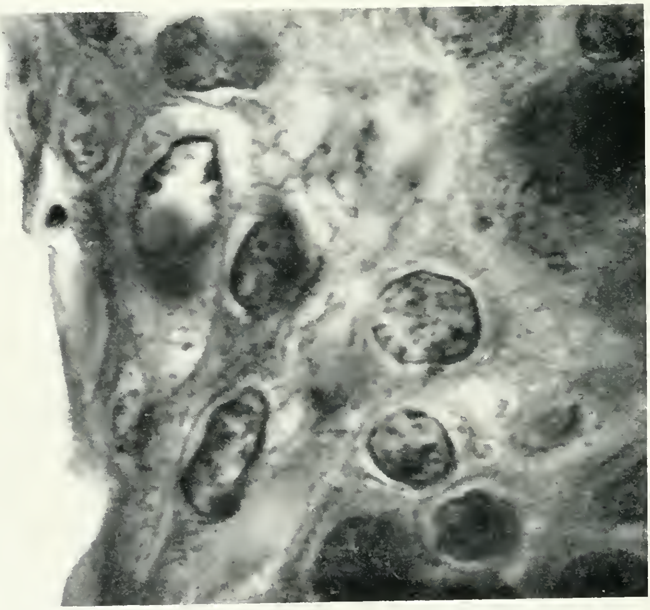

FIG. 2.

TO ILLUSTRATE DR. SKINNER'S ARTICLE ON THE HISTOLOGY OF DERMATITIS EXFOLIATIVA NEONATORUM

PLATE III.

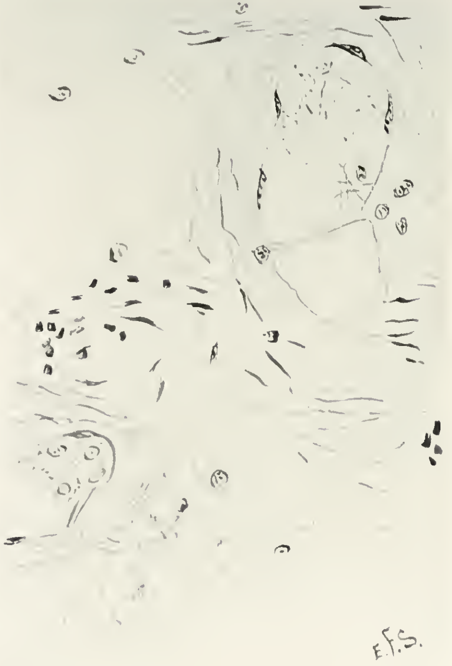

FIG. 1

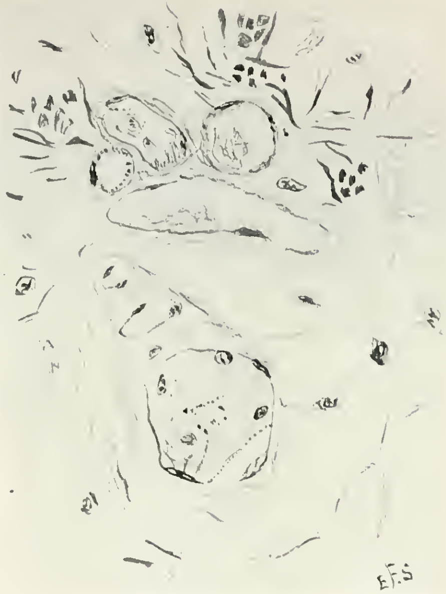

FIG. 2.

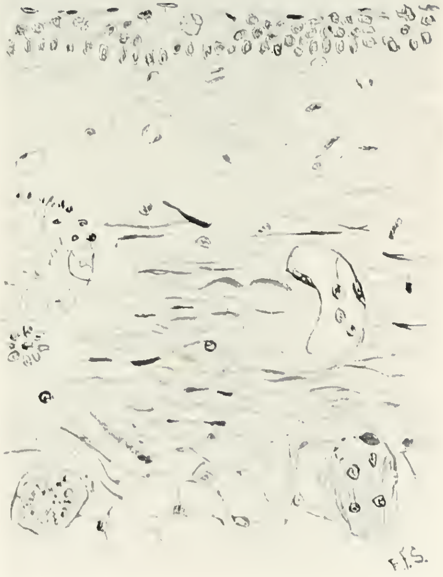

FIG. 3.

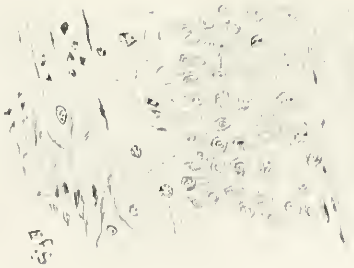

FIG. 4.

TO ILLUSTRATE DR. SKINNER'S ARTICLE ON THE HISTOLOGY OF DERMATITIS EXFOLIATIVA NEONATORUM.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, February 17th, 1910, Dr. COLCOTT FOX, President, in the Chair.

Mr. J. E. R. McDONAGH showed (for Dr. P. S. ABRAHAM) a case of *Alopecia areata.* The patient was a woman, aged 46 years. Her hair had commenced to fall out ten years ago just before a severe attack of typhoid fever, the scalp having been very scurfy previously. During and after the fever the alopecia had increased and become complete.

The patient had been under Dr. Abraham's care for two years, and during this period a great deal of hair had grown.

The treatment had been with antiseptic ointments, stimulating lotions, and occasional application of Burt's fluid with iron, arsenic, and nux vomica internally.

The marked improvement had been since applications of Hersheimer's lithantrol had been employed; but consequent upon its use the follicles of the still nude area on the vertex were filled with comedo-like plugs, which were easily expressible—simulating tar acne on other parts of the body without the concomitant inflammation.

The alopecia had been a complete one, not in areas, and now the hair had grown completely all round with a few sparse hairs on the vertex.

Dr. H. G. ADAMSON showed *a case for diagnosis.* The patient was a married woman, aged 43 years. She had had six children, the youngest of whom was five years of age. She was somewhat stout. Except for the eruption to be described she appeared in good health. The eruption had begun two months ago as a red spot in the skin, 1½ inches above the right nipple. In the course of the next three weeks the spot had grown to a patch about 2 inches long and 1 inch broad. One month ago a second patch had appeared upon the outer side of the right arm just above the elbow, and a third upon the dorsal surface of the left foot, just at the junction of the fourth and fifth toes. Quite recently the margins of her ears had become slightly swollen and red.

The lesion on the right breast was irregularly rectangular in shape, and measured about 2½ by 3½ inches, the nipple occupying the centre of the lower half. It consisted of a bluish-red, sharply margined patch, slightly raised, but presenting no feeling of infiltration to the finger, most of the colour and elevation of the lesion momentarily disappearing on firm pressure. It suggested, not a solid infiltration, but rather an erythema with exudation. Just within the upper margin of the patch were some firm millet-seed-sized rounded nodules standing out pale and pink against the dark background of the patch, and firm to the touch.

On the right arm, just above the elbow, there was a similar, but smaller, rounded patch of the size of a two-shilling-piece. It was less deeply blue in tint than the patch on the breast. It presented the same ring of nodules towards its margin. The patch on the left foot was similar in appearance, and of an even more dusky hue than that on the breast. Two ill-defined nodules could be felt at its margin.

The margins of the ears were of a dusky-red colour, with here and there some feeling of lumpiness. Since the patient had been first seen eight days ago some fresh lesions had appeared in the form of hemp-seed-sized nodules with a dusky-red halo. There were two on the left breast, and one on the right. At the middle one third of the lower lip, immediately below and parallel with the red margin, there had appeared a bluish-red band with slight elevation above the skin around.

A biopsy and sections of one of the nodules on the arm had been made by Mr. McDonagh, who had reported as follows: "There is marked œdema of the epithelial cells, especially in the region of the hair-follicles, this œdema extending down as far as the papilla. There is a hardly perceptible small round-cell infiltration in the corium. The section somewhat resembles an urticaria. There is no evidence of granuloma."

The members present agreed with the exhibitor that at present it was impossible to make a diagnosis.

Dr. Haldin Davis showed a case of *Granuloma annulare*. The patient was a male infant, aged 16 months. Apart from the skin-lesions it was healthy; it was the first child of its mother, who had had no miscarriages. The mother was healthy, and there was no suspicion of a tuberculous or syphilitic taint. The eruption, which had persisted six months, was chiefly situated on the buttocks, but had spread down the legs almost as far as the ankle. The appearance was that of radiation from the anus, as it was there that the lesions were most numerous—in fact some of them merged into one another; on the legs the individual lesions were quite isolated. Each of the lesions consisted of a ring slightly raised above the level of the surrounding skin, and distinctly palpable to the finger. Each started as a nodule, but as the periphery extended outwards a cup-shaped depression with normal skin was left in the centre. The fully developed ring consisted of a number of nodules closely set together. The eruption did not appear to cause any pain or other inconvenience to the patient.

The case was interesting because it appeared to be the youngest patient in which that condition had been noted. It would be remembered, too, that Granuloma annulare was commonly found on the hands and feet, but apparently in young children it was not infrequently found on the buttocks and thighs, as in this case, for Dr. Adamson had supplied the exhibitor with a list of four other cases with the eruption occurring in that situation.

Mr. Willmott Evans showed a case of *Xerodermia pigmentosa*, which presented some unusual features. The patient was a girl, aged 11 years, and according to the mother's account, early in the first year of life she developed some brownish pigment-spots on the face. At first they were thought to be freckles, but they increased greatly. Every winter, at first at least, there was slight amelioration, but in the succeeding summer the condition always grew worse. She complained of no symptoms, but she was somewhat worried by the appearance.

The child showed a large number of pigment-spots on the face, especially on the forehead, surrounding the nose, and on the chin. On the neck there were very few, and none on the arms, body, or legs. The pigment-spots were of a deep brown colour, and in parts almost black. For the most part they were discreet, but near the inner canthus of the right eye there was a brown "flash."

The lips were also deeply pigmented, and pigment in large amount was also to be seen on the mucous membrane of the cheek, but there was none on the tongue. No atrophic areas were present, and only one or two telangiectases. No warts were to be seen.

Mr. Evans said that he considered the case to belong to the same group as ordinary cases of Xerodermia pigmentosa in spite of the absence of telangiectases, atrophic spots, and warts, and in spite of the absence of pigmentation on the forearms and legs. That the pigment-spots were not ordinary freckles was, in his opinion, rendered certain by the marked pigmentation of the mucous membrane of the lips and mouth. Cases of Xerodermia pigmentosa of various degrees of intensity had been described, and this case was not much less severe than some of the more slightly marked cases which had been recorded, and in respect of the intra-buccal pigmentation it was especially well marked. There was no family history in this case.

The PRESIDENT said the case was interesting, especially in regard to the involvement of the buccal mucous membrane, but he was not inclined to accept the diagnosis of Xerodermia pigmentosa when lentigines were the only symptom, though he allowed the diagnosis was often a nice one in slight or abortive cases of Xerodermia pigmentosa.

Dr. PRINGLE asked if the patient had been unduly exposed to the sun, as occurred in most children who had Xerodermia pigmentosa. There appeared to be no family history of the disease in the case exhibited, and he thought the diagnosis could only be firmly established by further developments.

Dr. F. PARKES WEBER said he believed that the freckle-like spots on the face (especially around the mouth) and the black spots in the buccal mucous membrane might be merely a form of pigment nævus. Dr. H. D. Rolleston had drawn attention to a very similar condition of pigmentation of the circum-oral skin of the face and of the buccal mucous membrane in an anæmic young man, exhibited by him at the Clinical Section of the Royal Society of Medicine, on October 8th 1909. In that case, however, the skin of the hand was likewise pigmented and had a slightly atrophic appearance, so that Dr. Weber suggested at the meeting in question that the condition might be one of "incomplete" Xerodermia pigmentosa.

Dr. GRAHAM LITTLE showed Isabella S—, aged 4½ years, with *disseminated lupus.* The patient had had measles two years ago, and as the eruption of measles died away the present lesions had been noted appearing almost like an exanthem, the small lupus nodules developing nearly at the same time. At present the child had small nodules of definitely lupus type, giving the characteristic buff colour on pressure with a glass slide, distributed as follows:

The largest patch was on the right cheek; now it was the size of a sixpence. This was said to have commenced in the same way and at the same time as the other and smaller nodules. In all there were about twenty-five such lesions scattered widely and rather symmetrically over back and trunk. The nodules were the size of a split-pea, and appeared to have remained nearly stationary, with the exception of the face-lesion, which alone had grown much larger than the others.

The father had been seen, and was the subject of the most extensive and chronic tar-acne, his employment being in a gas-works. There was no history of tubercle either in the family or in this patient. A somewhat similar case also occurring after measles had been shown some time ago by Dr. MacLeod.

The **President** said these phases of tuberculosis were of great interest in relation to the so-called tuberculides. As a rule nearly all the lesions died away spontaneously, but some might remain and spread to form lupus patches. In a case under his care with a great number of disseminated lesions. all died away except one on the hand, which persisted and grew into a warty patch.

Dr. J. M. H. **MacLeod** showed a case of *syphilitic onychia.* The patient was a middle-aged man who had contracted syphilis fifteen years before. After the disappearance of the secondary symptoms he had been free from any signs of the disease till five years ago, when his left hand had become affected with a typical scaly palmar syphilide. This resisted treatment for some months but temporarily cleared up under injections of benzoate of mercury. Early in 1909 it appeared again, when it was associated with a suppurating perionychia of three of the fingers of the same hand. At the time of exhibition a number of scaly, brownish-pink macules and patches were present on the left palm, and the second, third, and fourth fingers were affected with the perionychia. The nail-wall of the finger was raised and inflamed, and there was superficial ulceration at the lateral borders. The nail-plate was thickened, opaque, and of a dirty-greyish colour, and anteriorly had softened and partly sloughed. The condition was the result of an inflammation and suppuration of the tissue around and beneath the nail, leading to destruction of the nail-plate and imperfect growth at the nail-matrix.

Sir **Malcolm Morris** and Dr. **Dore** showed a case of *Pityriasis rubra* in a man, aged 21 years. When the patient was nine years of age he noticed scaly spots scattered about his body and limbs, the largest patch, on his thigh, being about the size of the palm of his hand. There was nothing on his elbows or knees. As a result of treatment by chrysarobin, the skin of the whole of his body became acutely inflamed, the redness being followed by profuse scaling. The scaly patches did not, however, entirely disappear. He continued to have attacks of acute redness, followed by desquamation, once or twice a year, sometimes very severe and sometimes mild, until the age of fourteen. Various ointments were tried without benefit. In 1903 he improved under creolin ointment and baths, and his skin remained clear for six weeks. The condition, however, again relapsed, and was again treated with chrysarobin ointment. Since this time the attacks have continued, the longest interval being one of eighteen months, when he was having vapour baths. As a rule the attacks were not accompanied by constitutional symptoms, but in 1908 a more than usually severe attack was attended by a temperature of 104° F., and severe pains in the feet and hands, with swelling of some of the joints. Since 1908 his condition has been much as it was at present, *i. e.* universal redness with scaling, accentuation of the natural lines of the skin, with here and there slightly darker patches apparently corresponding to the sites of previous patches of psoriasis. From time to time areas of white skin appeared, but the redness on the chest and face was permanent. Examination of the urine showed the presence of a substance which caused slight reduction of Fehling's solution. The daily estimate of the urea varied from 2·3 per cent. to 2·7 per cent. The blood showed a slight diminution of red cells (4500) and a slight increase of white cells (10,000). All external as well as internal drugs seemed to aggravate his condition, and he was being treated with simple inunction of vaseline. His sweat function was entirely in abeyance, and recently he had been unable to take vapour baths. Nothing abnormal could be found in his visceral organs.

Dr. GALLOWAY said that he was interested to note that, at any rate on one occasion, the urine of the patient had reduced Fehling's solution. One of the most severe cases of exfoliative dermatitis which had come under the speaker's observation, and which ended fatally, for some weeks before the fatal termination passed urine which constantly reduced Fehling's solution. This reduction was due in this case to the presence in the urine of homogentic acid, and the other substances producing the condition described as "alkaptonuria." On account of this phenomenon, the patient had been originally sent to Dr. Galloway with the suggestion that she was suffering from diabetes. So far as the speaker was aware, this is the only occasion on which the occurrence of alkaptonuria with severe disease of the skin has been noted, and he suggested that the urine in Sir Malcolm Morris's case might be re-examined with this observation in view.

Dr. J. H. SEQUEIRA showed (1) a case of *Lupus disseminatus faciei.* The patient, a married woman, aged 33 years, had had good health until eighteen months ago, when a number of spots appeared on the face. She had had four children, who were all healthy, and there was no history of tuberculosis in any recognisable form in any member of the family.

From the history it would appear that the eruption had come out gradually during the past eighteen months. Spot after spot appeared, and as the eruption did not clear she came to the London Hospital for advice. On the middle part of each cheek and the adjacent sides of the nose there were discrete papules the size of a millet-seed, of a reddish-brown colour. There were twenty-one separate lesions on the left cheek and side of the nose, and fifteen spots on the right side. Four scattered papules were present on the forehead. In some places three or four papules occurred in a line, or in a small group. They were distinctly palpable, and some had a tiny depression in the centre. Under the diascope they presented a semi-translucent appearance, but not exactly of the apple-jelly character.

The lesions did not conform to the characters of Barthélèmy's acnitis and Radcliffe-Crocker's Acne agminata. They appeared to the exhibitor to be of the disseminated follicular lupus type of Tilbury Fox. No biopsy had been made, and the reaction to tuberculin had not yet been observed.

Dr. PRINGLE considered the condition identical with what the late Dr. Crocker described as "Lupus erythematosus nodularis." He had observed three cases of it for prolonged periods, all of which ultimately proved to be frankly tuberculous. Dr. Liddle, of Harrogate, had published a full account of a well-marked example with microscopic findings, which he (the speaker) had in the first instance erroneously diagnosed as an erythematous case.

(See *Brit. Journ. of Derm.*, vol. xii, p. 319, *et seq.*)

(2) An unusual case of *Lupus erythematosus.* The patient, a Polish Jewess, aged 52 years, was shown as a case of Lupus erythematosus of unusual type. She was married, and had had five children; four of them were healthy, and one had died in convulsions in early infancy. There had been no miscarriages, and there was no history or evidence

of syphilis. There was also, so far as could be ascertained, no history of tuberculosis in the family, but owing to linguistic difficulties this point was not clear.

Seven years ago a lump was said to have appeared on the left cheek, the patient scratched it, and some fluid was said to have come away. From this central spot the eruption had spread until it involved the whole of the left cheek and the left side and root of the nose. The area had apparently increased rather more rapidly in the past three years. The patient had never consulted a doctor or attended a hospital for the cutaneous affection, but several weeks ago she consulted a medical man about a hernia, and he advised her to have treatment for the face.

The left cheek was covered with a dirty, brownish, scaly patch, which was limited above by a curved line passing below the eyelid and extending from the root of the nose to just outside the outer canthus. The outer margin was a nearly vertical line ending below at the level of the lobule of the ear. The lower margin curved downwards to the level of the upper lip and then passed upwards on to the middle third of the nose. The median border crossed to the right side of the nose at the upper part. The surface of the patch was scaly, and here and there were crusts which exuded a small quantity of thick pus. At the root of the nose was a deep depression surrounded by thick scale. The outer and lower margins of the areas were livid red in colour and slightly scaly. They had the characters of the lesions of Lupus erythematosus. On removal of portions of the thick scale, conical depressions were found in the true skin. There was also a small oval area a little larger than a pea below the main patch between the angle of the mouth and the angle of the jaw. This spot had a red margin and a central cicatricial depression. On the buccal mucosa on the right side there was a patch of redness with some central cicatrisation about an inch across, and on the left side there was a small white area not larger than a pea. The scalp and ears were unaffected, and there were no lesions on the hands.

The case presented some difficulty in diagnosis, but the evidence, in the exhibitor's opinion, on the whole favoured Lupus erythematosus. It was unusual on account of the long duration with unilateral distribution. The buccal lesions were of the type which occurred in Lupus erythematosus.

The diagnosis of Lupus erythematosus was generally agreed to, and—

Dr. J. H. **Sequeira**, in reply to a question as to whether syphilis could be entirely excluded, added that he felt little doubt that it was really the condition named, but he would have the Wassermann reaction tried.

Dr. **Whitfield** showed a case which was probably *Mycosis fungoides*. The patient was a man, aged 53 years, who had been under Dr. Whitfield's care for the last year. On first coming to the hospital he had stated that he had been suffering from an eruption on the body, limbs, and face for ten years. This eruption was then seen to consist of a redness of the skin over the trunk and limbs, accompanied by a little scaling. Almost the whole of the body was affected, but in places apparently normal skin was present, and in these places the eruption bordered on the healthy skin with a sharply defined and somewhat crescentic edge. There was slight infiltration to be felt, but this was of a very soft character and gave to the finger the impression of œdema of the epidermis rather than of infiltration of the true skin. A provisional diagnosis of Mycosis fungoides was made, and a biopsy was performed, the patient being treated with sulphur and salicylic acid ointment in case the eruption was of the nature of a seborrhœic dermatitis. The biopsy was not in any way characteristic, there being only the slightest mononuclear infiltration beneath the epidermis, with no exaggeration of the wavy line joining the epidermis and the papillary body, such as one would expect if even very early Mycosis fungoides were present. The infiltration was certainly not more than one would find with any dermatitis of so long standing. In the epidermis itself there were a very few non-leucocytic vesicles. Shortly after visiting the hospital the patient became rather ill and fell into bad circumstances, and entered the infirmary, where he had a somewhat severe attack of boils. Later he returned to the hospital, but no treatment did him any good (X-rays had not been tried).

On the whole, perhaps the eruption had become a little more marked while he was under observation, but the change was not striking.

On exhibition, the whole of the trunk was covered with a dusky-red eruption, with a few areas of white skin showing between the large patches. At these points the eruption showed a very definite edge of polycyclical outline.

The arms and legs were similarly affected.

Infiltration was present, but not marked, and in no part was there any tumour formation. Over the left clavicle, the left iliac region, and on the right side of the chest there were oval areas measuring about two inches by one and a half, where the skin was of a dark brownish purple, and scaling was marked, but over most of the body the scaling was very slight, being, perhaps, kept in check by ointments. Itching was very slight. The glands in the axillæ and groins were large and painless, but he had had generalised furunculosis and a slightly desquamating eruption for many years. Dr. Whitfield said that he was intending to do another biopsy, and would report on it later if the patient submitted to it. He was very doubtful if the case was in reality Mycosis fungoides, but he thought it was suspicious. The excellent health of the patient and the almost complete absence of itching were, he thought, against it. If it was Mycosis fungoides, it was certainly impossible to diagnose it when he made the first biopsy.

Dr. PRINGLE had seen the case in his out-patient practice about four years previously, and had then arrived at the diagnosis made by Dr. Whitfield. The patches were then more discrete and more scaly, and he well remembered their peculiar livid bluish tint, which was now so prominent a feature of them.

The PRESIDENT remarked that the case was almost certainly one of Mycosis fungoides, but in the pre-tumour stage the clinical evidence was often not decisive.

EDITORIAL.

RECENT OBSERVATIONS ON THE STRATUM CORNEUM.

SEVERAL papers have been published recently in the *Monatshefte für praktische Dermatologie* on the subject of the stratum corneum, which throw some light on one of the most puzzling problems in connection with the histology of the skin, namely, the peculiar staining properties of the horn-cells. In 1897 the first paper in this connection was written by Rausch* under the heading of the "Tinktorielle Verschiedenheiten und Relief der Hornzellen," in which he described the appearance of horn-cells separated by maceration, stained by polychrome methylene blue and fixed by a 1 per cent. aqueous solution of potassium ferricyanide. By this method the horn-cells presented a striking appearance; some were stained pale blue with a delicate intra-cellular network, and were either homogeneous-looking or speckled over with small blue granules, some were stained reddish with small red granules, some remained unstained but had small red granules, while others showed all transitions between these four main types. These appearances were illustrated in a paper on this subject published in 1899 by the writer.* Previous to this Ernst, of Heidelberg, had described a granular appearance in pathological horn-cells when stained by Gram's method. These granules Ernst considered to be composed of keratin. Kromayer asserted, on the other hand, that they were artificially produced by the iodine in the staining method. A large number of experiments were done at the time to try to decide this matter, and the conclusion that was come to by various observers was that they were something more than stain deposits, that they were intimately connected with the structure of the horn-cell, and that they were caused possibly by the persistence and keratinisation of the intercellular fibrils or "prickles." Though this attractive suggestion seemed the most likely explanation, there still remained certain points to be elucidated before it could be accepted finally, and one of these was the problem of the variations in tint of the horn-cells and of the granules when stained by dyes, such as polychrome methylene blue, etc., which tend to split up into their metachromatic colours. During this year a series of researches bearing on this problem have been carried out by Unna and his pupils in Hamburg. The first of these was published by Unna and Golodetz,† in which the reaction of the elements of the skin to iron and the chemical differences of the horn-cells were discussed. Among other experiments, sections of the sole of the foot were stained with a concentrated solution of liquor ferri perchlor. for five seconds, washed and fixed in 30 per cent. tannin solution for the same time, then washed for six hours in distilled water. By this means the stratum corneum was stained in a variegated manner, in which the horn-cells situated above the apices of the papillæ were stained brownish, while those which dipped down into the interpapillary processes were stained blue. By the Rausch method a corresponding variegation in tint occurred, but with the difference that the cells above the papillæ were coloured violet and those between them red. According to Unna's experiments this difference in the tint of the horn-cells is due to different states of cornification. He has described three substances connected with cornification in the horn-cells, to which he has given the names "keratin A," "keratin B," and "horn-albumose." Keratin A is solid and occurs as irregular granules, keratin B is semi-solid and occurs as roundish bodies, while horn-albumose is still softer and more globular. By the iron-tannin method keratin A and B are stained blue while horn-albumose is stained brownish, so that the difference in colour of the cells is dependent on the preponderance of one or other of those substances—keratin or horn-albumose.

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* *Monats. f. prakt. Derm.*, 1897, xxiv, p. 65.

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* *Brit. Journ. Derm.*, 1899, xi, p. 137.

† *Monats. f. prakt. Derm.*, 1909, xlix, p. 95.

In a paper entitled "The Arrangement of the Component Parts of the Stratum Corneum," Judin* describes a series of experiments in which he digested sections of the skin in pepsin and hydrochloric acid for times varying from half an hour to twenty-four hours and then stained them by the iron-tannin and the Rausch methods. He found that after half an hour's digestion many of the cells appeared to be empty and would not stain, and that the number of unstained partially digested cells greatly increased when the digestive process was prolonged. He observed that it was the brownish cells which disappeared and that only the blue-stained cells remained, and as it is the horn-albumose which stains brownish and the keratin blue, it was clear that it was the albumose which had been digested and the keratin which resisted the digestive process.

Bergmann,† in a paper entitled "The Relief of Rausch in the Light of Recent Researches on Cornification," describes a further set of experiments in which he separated the horn-cells, then hardened and embedded them in celloidin, and cut sections in the hope of obtaining sections of individual horn-cells. This he claims to have done. These sections were stained by the iron-tannin and Rausch methods. The following conclusions were come to by Bergmann as a result of his observations: That the outer membrane of the cell consisted of keratin A, that this enclosed an intermediate zone in which were fine granules of keratin B, and that in turn a central portion with masses of horn-albumose.

It cannot be asserted that these papers have finally solved the problem of the staining reaction of the horn-cells, but they suggest a possible explanation of them. On the other hand, if Bergmann's conclusions be correct, and if at the same time the granular appearance of the horn-cells when stained by certain methods be not artificially produced by the staining method, the view that these granules, which Bergmann believes to be keratin, are the keratinised intercellular fibrils or "prickles" situated on the outer part of the cell can no longer be sustained and confusion is rendered worse confounded.

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* *Monats. f. prakt. Derm.*, 1909, xlix, p. 147.

† *Ibid.*, 1909, xlix, p. 151.

CURRENT LITERATURE.

LIVEDO ANNULARIS. L. M. Bonnet. (*La Presse Médicale*, May 12th, 1909, No. 38, p. 338.)

Synonyms.—Livedo reticularis, Cutis marmorata (Mracek), Asphyxie réticulaire, Cyanose réticulaire, Livor cutis (Hebra).

While in a roseola the eruption consists of red macules separated by a white network of normal-coloured skin, in Livedo annularis the exact opposite occurs, a red or violet network enclosing paler spaces. The explanation of this is afforded by the researches of Renaut, which show that there are in the skin areas in which the distribution of the blood presents a maximum intensity, each of these areas being supplied by a central deep artery (area of full circulation); and that in the intermediary spaces, which are naturally thus disposed in a network, the flow of blood is less active (area of reduced circulation). Hence the fact that an erythema due to arterial vaso-dilatation produces a roseola, while a venous stasis results in a violaceous network or livedo—comparable to the negative and positive of a photographic image (Finger).

A reticulated lividity may be seen in the dead body. It appears when putrefaction begins and is produced by the diffusion through their walls of the liquid blood which remains in the veins. This lividity, "with its anastomotic distribution," has a certain analogy with Livedo annularis.

Bonnet describes the following clinical varieties of Livedo annularis:

(1) Transitory livedo.

(A) *Physiological.*—Exposure of the naked skin to cold will produce livedo ("livedo a frigore") in most healthy subjects in varying degrees. It is seen notably on the thighs, around the knees, and on the forearms, as a faint violaceous network, which disappears after a variable time. A local mechanical interference with the circulation will also produce livedo in the normal skin.

(B) *Pathological.*—There is one type which is simply an exaggeration of the physiological livedo in certain individuals of defective nutrition, and especially among such as show a tendency to benign tuberculous lesions.

A second type is that which forms part of a vaso-motor nerve disturbance, as in Raynaud's disease, in which the diffuse cyanosis of the hands is associated with marbled mottling of the forearms.

(2) Persistent livedo.

(i) "Livedo a frigore" may be so persistent in certain individuals (Mracek, Balzer) that such cases may be classed as midway between transitory and persistent livedo.

(ii) A type to which Balzer has given the name "Livedo inflammatoire," or "érythémato-inflammatoire," has as its seat of election the internal surfaces of the lower limbs, especially about the knees, and presents itself as a red network, standing out sharply against the colour of the skin, the red disappearing on pressure, but leaving a brown stain. It is not raised, and the epidermis is generally normal, but may be as though folded in parts or very slightly scaly. Its supposed inflammatory origin has been confirmed by a biopsy made by Bonnet. In some cases there have been causes which might explain the occurrence of such inflammatory lesions, as in Balzer and Griffon's case, where there was varicosity and cirrhosis of Laennec, and in Balzer and Merle's case, fatty liver, slight albuminuria, and varicose eczema of the legs. But in many cases there is no evidence of other disease.

(iii) Livedo reticularis with accompanying pigmentation may be seen in women who make habitual use of the "chaufferette" (the so-called Erythema ab igne).

(iv) There are isolated cases not belonging to any of the above groups and remarkable for the intensity of their lesions, as Unna's case (*International Atlas of Rare Skin Diseases*, Fasc. x), with ulceration of some of the lesions.

(v) Livedo has sometimes been observed in the rare cases of trophœdema of the limbs.

H. G. A.

ON EXPERIMENTALLY PRODUCED PIGMENT IN VITILIGO.

ROBERT STEIN. (*Archiv f. Derm. u. Syph.*, vol. xcvii, p. 163.)

EHRMANN, so well known for his investigations of the pigment question, came to the conclusion that vitiliginous areas can never be stimulated by outside influences to the formation of pigment, either by light treatment or by vesicants; neither syphilides nor Lichen planus leave on such skin-areas any patches of pigment. If in such cases X-rays are employed from a moderately soft tube until a lightish redness ensues, when the hyperæmia has disappeared the vitiligo patches still remain white. These experiments can be explained, according to the melanoblast theory, on the assumption that the melanoblasts, which become pigment-producing under the influence of external stimulants, have been destroyed, and therefore the epidermis, whose cells are incapable of producing pigment out of their own protoplasm, must remain pigment-free. Apart from one case of Montgomery's, who reported a case of vitiligo successfully treated with Finsen light, the author has never been able to find anything in the literature showing that pigment can be induced in vitiligo patches. Stein has, however, both by the Kromayer quartz lamp and also by means of carbon dioxide snow freezing, been able to bring about a formation of pigment in such patches. The pigment appears in the form of disseminated, irregularly circumscribed areas, has a definite incubation period, and again disappears. Histologically the pigment is intra- and extra-cellular, and morphologically corresponds closely with normal skin-pigment.

This pigment gives no iron reaction, is acid-fast, and is dissolved by alkaline H_2O_2 solutions, is coloured green by polychrome methylene blue, reduces osmic acid, loses this reduction power after the action of chromic acid on it, and is blackened by silver impregnation.

This pigment gives, therefore, as judged by our present knowledge of histochemical changes, the reaction of melanin.

J. L. B.

A LICHEN SCROFULOSORUM ERUPTION AFTER TUBERCULIN VACCINE. Leszczynski. (*Archiv f. Derm. u. Syph.*, vol. xcvii, p. 193.)

A boy, aged 15 years, with Lupus vulgaris and Lichen scrofulosorum, was treated according to von Pirquet's method with tuberculin vaccine, and as a sequela of this he developed, in addition to a well-marked reaction to the tuberculin, rings of typical Lichen scrofulosorum papules on skin which had been previously healthy surrounding the point of vaccination. The incubation period was shorter than thirty-eight days. This seems to support the theory that Lichen scrofulosorum belongs to the group of tuberculous diseases of the skin, and the experiment supports the theory of the tuberculides. The appearance of the Lichen scrofulosorum papules, if not merely a coincidence, seemed to depend both on local and general idiosyncrasy, inasmuch as the face was also treated with the vaccine near a lupus nodule, but the eruption did not appear here, nor did it appear on an area symmetrically identical with the point of vaccination described above.

J. L. B.

EXPERIMENTAL INVESTIGATION OF PSYCHIC URTICARIA. Kreibich and Sobotka. (*Archiv. f Derm. u. Syph.*, vol. xcvii, p. 187.)

We are to assume, and it is said to be proved, that hypnotism can induce all intensities of vaso-motor changes, from hyperæmia or vaso-motor œdema up to necrosis, and two cases are quoted (one from an English source) of patients who can induce urticaria lesions on a given spot, which has not been touched or irritated, by "an effort of the will." These cases are, of course, said to be influenced by "auto-suggestion."

The case is here related of a young painter, aged 28 years, in whom red patches, the size of an almond, appeared when he got angry, excited, or when thinking hard to overcome some well-marked obstacle. Experiments were carried out on this patient in the presence of medical men, and the results were positive. The authors conclude that every psychical stimulus, which with normal innervation produces blushing or flushing, leads not only to hyperæmia but also to vaso-motor œdema. The difference of the effect lies, not in the different intensity of the psychical afferent stimulus, but is most easily explained by the increased conductivity of the vaso-motor reflex arc.

J. L. B.

ON LEUCODERMA SYPHILITICUM. Hans Vörner. (*Archiv f. Derm. u. Syph.*, vol. xcvii, p. 203.)

Leucoderma syphiliticum colli is, according to the older view, a so-called pigmented syphilide, *i.e.* it arises, like every genuine pigmented syphilide, through a deposit of pigment in the skin of the neck of secondary syphilitics (Hardy). The pigment is deposited here diffusely or in circumscribed areas. The first variety often passes into the second. The circumscribed area shows a net-like division of the pigment material, by means of which normal skin areas appear paler than usual. Neisser, on the other hand, declares that the lighter areas of this affection are alone pathological. Vörner has observed two cases in which a specific hyper-pigmentation arose, a brownish coloration of certain areas of the surface of the body, in which first light punctiform spots were visible, which gradually increased to larger pigment-free areas. Leucoderma syphiliticum is undoubtedly due to a peculiar condition of the skin. This consists in a diminished power of pigment fixation, first for punctiform, later for larger areas. If this is less than that of the normal skin, then the leucoderma appears as a more or less well-marked vitiligo-like depigmentation. If it is identical with that of normal skin, the leucoderma remains invisible or latent.

J. L. B.

ON THE IODOPHILE SUBSTANCE IN DERMATOLOGICAL AFFECTIONS. STÜMPKE. (*Archiv f. Derm. u. Syph.*, vol. xcvii, p. 260.)

THE iodophile substance has already been investigated by Stümpke in its relation to the leucocytic elements of the blood. In a previous paper he published the results of examination of a number of films from the most varied skin-diseases; now he has been studying sections of the tissues and has been able to confirm some of his previous conclusions. He has come to believe that the three most important factors for the development of iodophilia are a certain independence of the blood circulation; a certain rapidity of the injurious causes which are coming into play; and thirdly, the presence of fairly well-marked tissue changes. In this inflammation in association with new formation seems to play a definite part, and it seems that the presence of the iodophile substance must be looked upon as the expression of increased vital cell activity.

J. L. B.

DARIER'S DISEASE IN THREE GENERATIONS. PÖHLMANN. (*Archiv f. Derm. u. Syph.*, vol. xcvii, p. 195.)

HAMMER has recently pointed out at the Congress of the German Dermatological Society that Mendel's laws of heredity, proven for the crossing of plants, hold for a considerable number of dermatoses, or, at least, anomalies of the skin. Skin-diseases, which are undoubtedly hereditary through several generations, are, according to Adrian, neuro-fibromatosis, acute circumscribed œdema, porokeratosis, Epidermolysis bullosa hereditaria, Keratoma palmare et plantare, psoriasis, and Ichthyosis vulgaris. Whether one agrees with Adrian's conclusions is another matter, especially concerning psoriasis; but Pöhlmann has, at any rate, brought forward a very interesting sequence of Darier's disease in three generations—father, son, and two daughters. The extent of the disease varied in the different individuals, but in two of them the thermo-cauterisation, proposed by Herxheimer in 1899, was used with success.

J. L. B.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

ERYTHEMAS, INFLAMMATIONS, ETC.

Bullous Eruption produced by Hypnotism, A Case of. HELLER. (*Münch. med. Wochenschr.*, 1909, No. 41.)

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Contagious Skin-Diseases, Certain. F. C. CURTIS. (*New York Med. Journ.*, November 20th, 1909, p. 101.)

Dermatitis due to Bichromate of Potash, Two Cases of Acute. H. P. WHITE. (*Lancet*, January 29th, 1910, p. 297.)

Ecthyma térebrant de l'enfance, Case of. WELANDER. (*Archiv f. Derm. u. Syph.*, January, 1910, p. 349.)

Favus in Infants. SPRECHER. (*Archiv f. Derm. u. Syph.*, January, 1910, p. 389.)

Impetigo of Grave Albuminuria. HENRI MALHERBE. (*Journ. des Mal. Cut. et Syph.*, 1909, tome xx, Fasc. 9, p. 677.)

Lupus erythematosus of Mucosæ, A Contribution to the Study of the Pathological Anatomy of. PAUTRIER and FAGE. (*Ann. de Derm. et de Syph.*, December, 1909, p. 673.)

Necrosis of the Corium in Multiple Foci and with a Chronic Course. SCADUTO. (*Ann. de Derm. et de Syph.*, October, 1909, p. 565.)

Œdema, Acute Circumscribed, of the Face, and Urticaria in the Course of Intermittent Outbursts of Febrile Sero-Purulent Rhinorrhœa in a Degenerate with Adenoids. SIMONIN. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, December 9th, 1909, p. 722.)

Œdema, On Acute Essential; Acute Cyclic Œdema. G. SACQUÉPÉE. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, November 26th, 1909, p. 639.)

Œdema (Quincke's Disease), Two Cases of Acute Circumscribed. LEREBOULLET and FAURE-BEAULIEU. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, November 19th, 1909, p. 597.)

Œdema: Their Different Types, the Acute. ETIENNE. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, January 6th, 1910, p. 953.)

Pelade. HENRI MALHERBE. (*Journ. des Mal. Cut. et Syph.*, tome xx, 1909, Fasc. 9, p. 649.)

Pellagra, Ætiology of. J. H. TAYLOR. (*New York Med. Journ.*, December 18th, 1909, p. 1209.)

Pellagra Contracted from Domestic Animals. RUSHING. (*New Orleans Med. and Surg. Journ.*, February, 1910, p. 621.)

Pellagra, Personal Observations on the Skin-Lesions of. HOWARD FOX. (*Med. Record*, February 5th, 1910, p. 228.)

Pellagra, The Fungus, Diplodia, as a Possible Factor in the Ætiology of. HOWARD S. REED. (*New York Med. Journ.*, January 22nd, 1910, p. 164.)

Pemphigus and Dermatitis Herpetiformis. GEO. PERNET. (*Brit. Journ. Derm.*, January, 1910, vol. xxii, p. 1.)

Pemphigus Neonatorum occurring in the Practice of a Midwife. MARGARET M. SMITH. (*Brit. Med. Journ.*, January 22nd, 1910, p. 198.)

Phthiriasis of the Ciliary and Scalp Hair. FISCHER. (*Monats. f. prakt. Derm.*, February 1st, 1910, p. 115.)

Pityriasis Rosea, with Pseudo-Vesicles. U. J. WHITE. (*New York Med. Journ.*, November 13th, 1909, p. 962.)

Purpura of Two Years' Duration connected with Malignant Endocarditis, Chronic. PARKES WEBER. (*Brit. Journ. Derm.*, February, 1910, p. 37.)

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Vaccine Auto-inoculation. LEO WOLFER. (*Archiv für Kinderheilk.*, Stuttgart, Bd. 25, Heft i–iii, 1909, p. 123.) (Illustrated.)

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Chrysarobin and Pyrogallol Ointments with Addition of Alkali. A Contribution to the Question of Scale Production. DREUW. (*Monats. f. prakt. Derm.*, December 15th, 1909, p. 531.)

Contribution to the Action of Hyperæmia and Mechanical Stimuli on the Epidermis. TEREBINSKI. (*Archiv f. Derm. u. Syph.*, January, 1910, p. 359.)

Experimental Studies on the Vaccine Virus. PROWAZEK and TAMAMOTO. (*Münch. med. Wochenschr.*, 1909, p. 2627.)

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Agglutination of Sporotrichosis with the Serum of a Case of Actinomycosis. ROTHE. (*Deutsch. med. Wochenschr.*, No. 1, 1910.)

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Complement Fixation in Cases of Leprosy with Syphilitic Antigen. ELIASBERG. (*Deutsch. med. Wochenschr.*, No. 44, 1909.)

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Leprosy, *Résumés* of Communications made to the Second International Scientific Congress against Leprosy, Bergen, 1909. (*Journ. des Mal. Cut. et Syph.*, Fasc. vii, 1909, pp. 566–594.)

Leprosy, The Second International Congress on, Bergen, August 16th to 19th, 1909. DARIER and DUBREUILH. (*Ann. de Derm. et de Syph.*, October, 1909, p. 579.)

Lupus Vulgaris, Local Intra-dermic Reaction to Tuberculin in. (*Ann. de Derm. et de Syph.*, December, 1909, p. 684.)

Sporotrichosic Arthritis of the Knee. P. MOURE. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, January 6th, 1910, p. 948.)

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XANTHOMA TUBEROSUM MULTIPLEX, WITH LESIONS IN THE HEART AND TENDON-SHEATHS.

(*From the Laboratory of the Royal College of Physicians, Edinburgh.*)

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Although within recent years numerous cases of multiple xanthomata have been recorded, and the disease is now a well-established entity, the following case presents several features of special interest. It is that of a girl, A. G—, aged 11 years, who was admitted on September 25th, 1909, to the Royal Hospital for Sick Children, Edinburgh, under the care of Mr. Harold J. Stiles, to whom I am indebted for permission to publish the case.

About three years ago a swelling was noticed on the middle finger of the right hand. About a fortnight later a similar swelling appeared on the middle finger of the left hand, and within the next few weeks several other swellings appeared on the hands. At the same time "lumps" were noticed on the arms, buttocks, and heels. These swellings and "lumps" all appeared somewhat suddenly, and rapidly reaching their present size, have remained stationary. They have never itched nor been painful, and have caused no inconvenience except on the fingers, where they interfere with the movements of the joints. The patient has always had fairly good health and attended school regularly. She has occasionally had attacks of giddiness.

Her father and mother are both alive and well. She has one sister and three brothers, all younger than herself, and says that none of these show any swellings or skin-eruption similar to that seen on herself.

The patient has had no previous illnesses except measles, and has never been jaundiced. Her left foot was run over by a cart six years ago, when the wound was stitched by a doctor. Soon after the swellings appeared on her hands a "lump" was noticed on the scar of the former wound on her foot.

The patient is a somewhat delicate-looking child, but fairly well nourished. There is no sign of jaundice. There is no eruption on the face, neck, or body. Both hands (fig. 1) show rounded swellings projecting from the sides of the fingers. These are present on the ring and middle fingers at the level of the first intercarpal joint and over the knuckles of these fingers on each hand. There is also a similar swelling on the flexor aspect of the right thumb at the level of the centre of the first phalanx. All the swellings are covered with slightly reddened skin, which moves freely over them. They are fairly tense, somewhat lobulated, and at places give a feeling almost of fluctuation. They are not attached to the bones, and can be moved from side to side, but not vertically. They move with the tendons and are evidently attached to their sheaths. On the extensor aspect of the right elbow there is a raised yellow tubercle, which has a red margin. It is soft to feel, and is imbedded in the skin. There is a cluster of similar lesions over the prominence of the elbow of the left side (fig. 2). On the back of the left upper arm, just above the skin-eruption, there is a fairly tense, slightly lobulated swelling, about $\frac{3}{4}$ in. long by $\frac{1}{2}$ in. broad, which can be moved from side to side, but not vertically. This swelling feels like those on the fingers, and is covered with normal skin. On the buttocks (fig. 4) are several circular, flat lesions of a yellow colour, soft to feel, and embedded in the skin, and just above the anus is a small puckered depression in the skin, around which are several minute yellow spots. Over the right patella is a raised yellow spot, which is flat on the surface and about a quarter of an inch in diameter, and of the same character as the spots on the buttock. On the front of the right ankle and extending downwards on to the dorsum of the foot are similar flat, yellow spots, arranged in a circle, with a crenated edge and whitish-red centre. There are several large lobulated swellings, covered with normal skin, attached to the tendo Achillis and to the tendons of the

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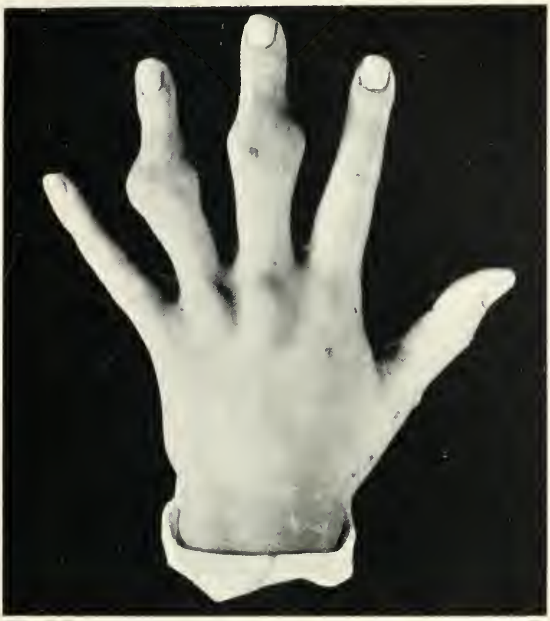

Fig. 1

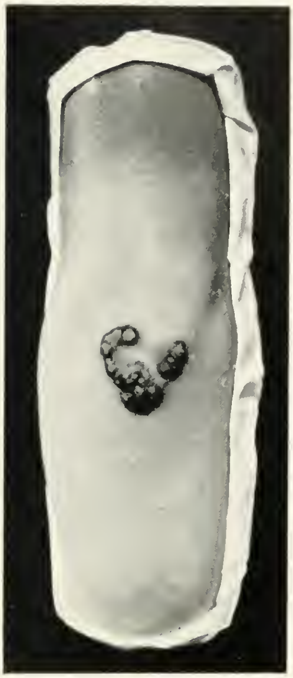

Fig. 2.

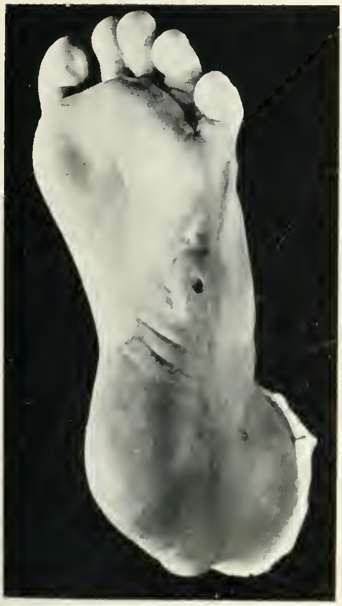

Fig. 3.

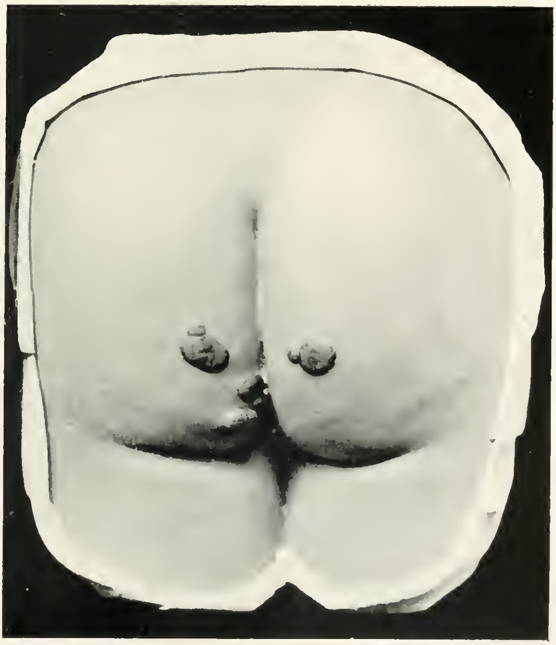

Fig. 4.

To Illustrate Dr. R. Cranston Low's Article on Xanthoma tuberosum.

peroneus longus (fig. 3) of both sides, also a smaller swelling on the extensor tendon of the right great toe. There is a yellow mass in the centre of the scar on the outer border of the sole of the left foot (fig. 3). This mass has a crust in the centre, and looks as if it has been injured.

There is no enlargement of any of the lymphatic glands to be made out.

The liver is not enlarged. It extends from the upper border of the fourth rib in the mammary line to the costal margin. The lower edge cannot be felt.

The apex-beat of the heart is heaving in character, and situated between the fourth and fifth ribs just external to the nipple. There is a loud systolic murmur heard all over the heart, but best heard in the aortic area. This murmur is propagated up into the neck. The second sound is closed all over the heart and re-duplicated at the base of the heart. There is no sign of any enlargement of the aorta on percussion.

The urine contains no albumen and no sugar.

The patient was sent in October to the convalescent house at Gullane, but had to be re-admitted to hospital shortly afterwards on account of attacks of fainting and giddiness.

Now (December, 1909) the heart is in much the same condition as before, but the lower edge of the liver can be made out one finger's breadth below the costal margin. There is also a marked dilatation of the superficial veins over the lower part of the thorax and the abdomen. There are no signs of free fluid in the peritoneum.

On the first occasion on which patient was in hospital Mr. Stiles excised the skin-lesion from the right elbow and one of the tumour masses on the right middle finger. The latter was found to consist of a lobulated mass of yellow colour growing in the tendon sheath of the extensor tendon, and also in the prolongation of the sheath into the interpharyngeal joint, which had to be opened into in dissecting off the mass.

Part of this tissue was fixed in Müller's fluid, stained *en bloc* with 1 per cent. osmic acid solution and embedded in celloidin; part was fixed in formalin, and of these latter pieces some were cut with the freezing microtome, others were cut in celloidin in the ordinary way. The sections were stained with hæmatoxylin and eosin, methylene blue and picro-fuchsin, hæmatoxylin and Sudan III, and Weigert's elastic tissue stain.

The structure of the lesion in the skin and tendon sheaths is essentially the same. Both are composed of a fibrous-tissue meshwork in which lie masses of cells (xanthoma cells) containing a fatty substance.

In the skin, which is otherwise unaltered, the papillæ are flattened out and the tumour-mass lies in the corium immediately below the epithelium (fig. 5). The mass has a liberal supply of blood-vessels, around which the cells are more closely packed, but contain less fatty substance than those further removed from the vessels. Most of the cells are definitely uninucleated with well-marked nucleoli, but there are groups of nuclei the outlines of whose cells cannot be definitely made out. These suggest more the close aggregation of several cells than the formation of giant cells. The fatty substance is in the cells, and consists of small droplets closely packed together. This fatty substance stains well with Sudan III. There is much less staining with osmic acid than one would expect from examining the Sudan sections. In the sections cut by freezing very numerous short crystals with bluntly pointed ends are seen (fig. 7). These are either single or arranged in bundles. They are most abundant where the fatty droplets are most numerous. In the skin the masses of cells have a fairly definite edge with finger-like prolongations into the surrounding tissue. In the tendon sheath the centre of the mass contains the large rounded cells full of fatty droplets, whilst the edge shows a gradual transition to normal fibrous-tissue parts showing fibrous tissue with rows of fatty droplets arranged in the connective-tissue cells. Elastic tissue is present in considerable quantity throughout the supporting framework of the mass.

Both clinically and microscopically, therefore, this case is a typical one of Xanthoma multiplex. Bodin (5), in *La Pratique Dermatologique*, subdivides cases of Xanthoma vulgaris into (1) Xanthoma planum; (2) Xanthoma tuberosum; and (3) Xanthoma "en tumeurs." In the case before us there is a mixture of all three subdivisions.

I do not propose to enter into any discussion as to the probable cause of xanthoma, as this case throws no light on the origin of the disease, nor to refer at all to the ordinary Xanthoma palpebrarum which is so often seen on the eyelids, and there only, nor to the

PLATE II.

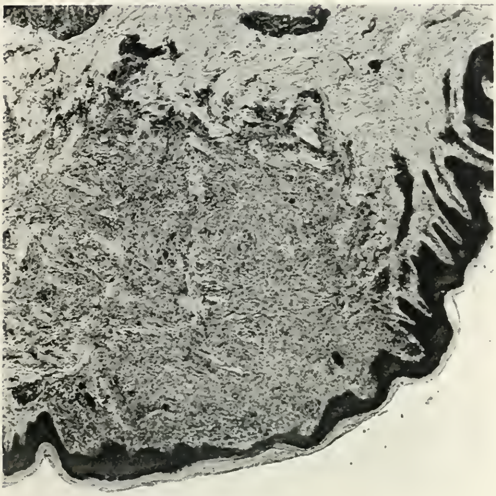

Fig. 5.

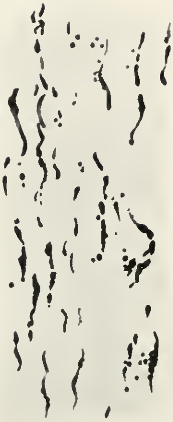

Fig. 6.

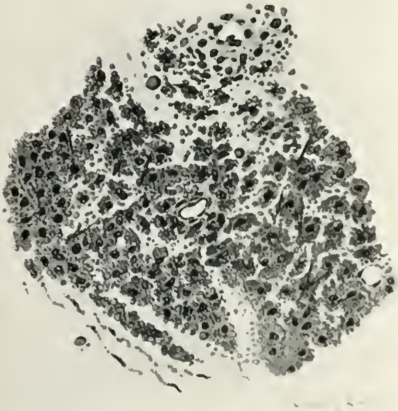

Fig. 7.

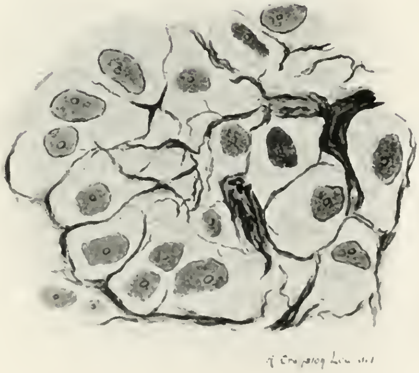

Fig. 8.

To Illustrate Dr. R. Cranston Low's Article on Xanthoma tuberosum.

special form found in diabetes. The following remarks refer only to Xanthoma tuberosum multiplex.

Some authors have tried to separate the juvenile from the adult cases, but no such hard and fast line can be drawn between these two groups, as the disease is identical in children and adults, and cases are recorded at all ages from three months to sixty years of age.

The lesions in our case show a typical symmetrical distribution. The localisation on the elbows, hands, knees, buttocks, and feet is a very frequent one. The skin-lesions on the elbows at once suggest Xanthoma diabeticorum, but at no time has sugar been found in the urine. The absence of lesions on the eyelids is not unusual. In adults that situation is often the starting-point of the eruption, but several cases are recorded in children in which the eyelids have been early and extensively affected.

In many cases it is a family disease. Startin, Mackenzie (33), Hyde (29), Köbner, Hutchinson (28), and Thibièrge (46) have all reported cases where several members of one family were affected, either parent and child, or several members of both sexes in one family.

The special point of interest in our case is the presence of lesions on the tendon sheaths, in the heart, and possibly in the liver. There is a case reported in 1889 by Lehzen and Knauss (32) which is almost identical with our case. It was that of a girl, aged 11 years, who showed xanthoma lesions on the skin of elbows, buttocks, knees, and feet, and also had tumour masses attached to the extensor tendons of the fingers, the tendo Achillis, etc. This child had a mitral systolic murmur. Microscopically both the lesions in the skin and tendon sheaths were shown to be xanthoma. The child was suddenly seized with palpitation and breathlessness about three months after admission to hospital, and died within twenty-four hours. Post-mortem, yellow raised patches of xanthoma were found on the mitral valve, causing incompetence of the valve; also similar lesions were found in the aorta in one place in a ringed arrangement, causing considerable stenosis, in the left carotid artery, pulmonary arteries, and coronary arteries. The nine-year-old sister of the above case had similar but less extensive xanthoma lesions in the skin and tendon sheaths, but her heart was unaffected.

There is only one other case which I have been able to find where xanthoma lesions have been found post-mortem in the circulatory system. It is that reported by Pavy (36) and Fagge (15). Their case was an adult, who during life, in addition to showing skin and tendon-sheath lesions, had a mitral murmur, and post-mortem showed xanthoma of left auricle, aorta, pulmonary, innominate, and carotid arteries.

In addition to those examined post-mortem, a few others have been reported as having heart-murmurs in addition to generalised xanthoma of the skin. Poensgen's (38) case had stenosis of aorta, Pollosson's (40) case had a systolic murmur at the base of the heart, Vidal's (47) case mitral regurgitation, and Gwynne's two cases had mitral murmurs. Moxon reports a case of xanthoma where patches were found on the aorta. These were described as atheroma, to which condition the xanthoma lesions show a very close resemblance. Gwynne (20) gives photographs of his two cases, which showed lesions in skin and tendon sheaths very similar to our own. Both had heart lesions, and one of these children died very suddenly, and unfortunately no post-mortem was obtained.

Taking these facts into account with regard to heart-lesions in generalised xanthoma, I think that one is justified in coming to the conclusion that in our case the heart-murmur is in all probability due to xanthoma lesions in the aorta. Of course one cannot exclude endocarditis as the cause of the heart-murmur, but there is no history of rheumatism of any kind.

Lehzen and Knauss (32) recommend that the heart should always be examined in all cases of multiple xanthoma. In all such cases where a heart-lesion does exist a bad prognosis should be given.

Turning now to the lesions on the tendon sheaths, one finds that they are by no means so rare as the heart-lesions. After a careful search through all the available literature, I have been able to find records where the tendon sheaths (usually those of hands and tendo Achillis) were affected in seventeen cases. Those reported by Brachet and Monnard (6), Ehrmann (47), Feulard (16), Gwynne (20), two cases, Hyde (29), Lehzen and Knauss (32), two cases, and Poensgen (38), were in children of twelve years and under. Those recorded by Addison and Gull (3), Chambard (11), Gottheil (19), Hardaway (24), Hillairet (26), Hutchinson (28), Pavy (36), and Fagge (15), occurred in persons over twelve years of age. There was no difference in the lesions in the children from those in the adults. The diagnosis in such cases should cause no difficulty. The hands present at first glance (Fig. 1) an appearance like multiple chondromata, but the fact that the lesions are not hard and move with the tendon movements should be sufficient distinction. The associated skin-lesions should at once suggest a correct diagnosis. The only other lesions which the tumours on the hands suggest are dermoid cysts. Pollitzer (39) reports a case where there were several small tumours on the hands of a yellowish colour. These were diagnosed as xanthoma, but microscopic examination showed them to be multiple dermoid cysts. Pollitzer also refers to two somewhat similar cases recorded by Touton.

There was undoubtedly a slight increase in size of the liver in our case on the second occasion in which she was in hospital. The enlarged veins on the abdomen also suggested some obstruction. At no time has she been jaundiced; but as very numerous cases have been reported where the liver showed a cirrhotic condition, sometimes associated with xanthoma lesions obstructing the bile-ducts, one must admit the possibility of the commencement of some such lesion in our case.

The only other point to which I would refer in this case is to the microscopic appearances. Up till quite recently everyone has regarded the material found in the xanthoma cells as consisting of fat, but recently Pinkus and Pick (37) drew attention to the fact that, although this substance stains with Sudan, it is not an ordinary fat. They point out that it stains very poorly with osmic acid, and that the stain comes out when the specimen is put in xylol balsam. In our osmic acid specimens there is undoubtedly very much less of the fatty substance in the cells than in the Sudan specimens, but that we put down to incomplete fixation of the fatty substance before staining. The black staining is also rapidly fading, although the specimens are not more than a few weeks old. Pinkus and Pick consider that the substance in the xanthoma cells is a cholesterin fatty acid ester, and it differs from fat and fatty acids in being double-refracting under a polarising microscope. Pinkus and Pick also found that in absolutely fresh tissue there were no crystals, only droplets of the fatty substance, and crystals only appear after fixation in formalin. They consider the crystals and the droplets are two forms of the same substance. I have examined sections from our case under a polarising microscope, and can confirm the observation that both the droplets and the crystals are double-refracting substances. Moxon (35) refers to these crystals as tyrosin, but microscopically, although they occur in bunches, they do not resemble the crystals of tyrosin.

The substance, cholesterin fatty acid ester, has been found in the blood in cases of jaundice and diabetes in appreciable quantities, and Pinkus and Pick suggest that it is through the circulation that the fatty substance reaches the xanthoma cells, where it is deposited, but they have no suggestion to offer as to why this substance should be in the circulating blood.

Description of Plates.

Fig. 1.—Hand showing tumour masses on tendon sheaths of ring and middle fingers. The small lesions in the skin are ordinary warts.

Fig. 2.—Back of elbow showing xanthoma in skin. Note also "lump" in triceps.

Fig. 3.—Sole of left foot showing xanthoma in scar on sole and tumour masses in tendo Achillis.

Fig. 4.—Buttocks showing skin-lesions.

Fig. 5.—Celloidin section. Low-power view of lesion in skin of elbow, showing mass of fibrous tissue stained with hæmatoxylin and eosin.

Fig. 6.—Frozen section of mass from tendon sheath of finger stained with hæmatoxylin and Sudan III, showing transition stage from fibrous tissue to typical "xanthoma"; droplets of fatty substance in connective-tissue cells.

Fig. 7.—Frozen section of centre of mass from tendon-sheath stained with hæmatoxylin and Sudan III, showing xanthoma cells with droplets of fatty substance; also crystals.

Fig. 8.—Celloidin section, skin of elbow; oil-immersion microscope: stained with methylene blue and picro-fuchsin, showing "xanthoma cells" lying in meshwork of fine fibres; vacuolated appearance of protoplasm where fatty substance has been dissolved out.

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CLINICAL REPORT OF A CASE OF PEMPHIGUS VEGETANS.

BY W. J. RUTHERFURD, M.D.GLAS.

PEMPHIGUS vegetans is one of the most unfamiliar and also one of the rarest of maladies, occuring as it does with even less frequency than once in a hundred and four thousand unselected cases of illness such as are met with in general practice (the figures, so far as statistics of frequency are available, appear to be 1 in 104,625 cases). It is thus an illness unknown save in name to the majority, and which even a dermatologist may admit never to have encountered. Such is its rarity, that, even if it be once met with and rightly diagnosed, the probability is that there will never be an opportunity of utilising the experience thus clinically gained on any subsequent case of this disease. It proves itself uniformly fatal, palliative treatment even is almost useless, and the ætiology is completely unknown, or at best can only vaguely be guessed at. Being, so far as our knowledge reaches, non-inoculable and uncommunicable, the door of experimental research is closed, and the only remaining hope of acquiring knowledge as regards the disease, its causes, progress, and reactions towards exhibited remedies lies with the careful record of details whenever opportunity for such study has been presented; by possession of which, in the collection of data, and by a comparison of recorded cases it may perhaps be hoped that some thing may be gained towards enabling a final mastery to be obtained over this foul disease—frightful alike to the patient and to his friends, and the despair even of the physician, who at present can only place it for hopelessness in the same category as inoperable malignant growths, though even these are by no means always so speedy as is Pemphigus vegetans in leading on to a fatal issue.

It thus becomes a duty that cannot be avoided when the diagnosis of Pemphigus vegetans has once been made to place on record the notes of the case, however meagre these may be, and under whatever difficulties the case may have been observed.

Description of the Case.

The following is the description of a fatal case of this disease that I had under observation for a short time.*

The patient, aged 46 years, was the wife of a tenant farmer in the north of England, and her home surroundings were fairly comfortable. The story she gave was that *thirteen weeks* before she was first seen by me (*i. e.* about September 23rd, 1907) a blister had developed on the mucous membrane of the inside of her cheek, and that when it burst it discharged a sanious fluid which she spat out. After this her gums "went white" and became sore, so that she had pain on chewing; also it hurt her to swallow her food. Her daughter (a married woman) told me that on looking into her mother's mouth at this time she saw that the inside was white, "and also far back." Up to this time she had been taking no medicine of any kind, with the exception of a gargle of tincture of myrrh for her bad teeth. Seemingly some three weeks after the first appearance of the blister in her mouth, her mouth began to water, and *ten weeks ago* it did so so profusely that she would spit out a quart or more of saliva during the course of the night alone (this estimate is not a mere vague assertion on the patient's part, but is gained by actual measurement of the vessel she used to fill).

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* On reading the following report it will be understood that the present tense has been retained throughout when transcribing from notes made at the bed-side.

Eight weeks ago, at about the end of October, she went to a dentist and had fifteen teeth drawn; he remarked to her at the time that he found abscesses at the bottom of their roots. According to her own story it was now that she began to have a discharge from her nose, an eruption on the trunk, head and limbs, and secretion from her left eye.

Dr. Andrew Findlay, who had seen the patient before I did, kindly supplied the following details covering the period gone over in the preceding story. When she first sought his advice there was hyperæmic reddening of the posterior pharyngeal wall, of the pillars of the fauces, and of the buccal surface of the velum palati. Laryngoscopic examination revealed a normal condition of the vocal cords. At a later stage superficial ulcerations commenced on these inflamed areas of mucous membrane, and while this was going on a vaginal discharge began and became profuse. Some time afterwards vegetations sprang up on the skin of the vulva, where it had been irritated by this secretion. Dr. Findlay did not see his way to make any vaginal examination. He also supplied the following note: "Mrs. L— was first seen by me at the surgery here on October 26th, 1907, and complained then of pain on swallowing. Examination of throat showed mucous membrane reddened and a few white patches. A few days later blebs with an inflamed base formed. About a month afterwards the condylomatous formations began to form at the vagina."

The patient attributed her whole illness to the tincture of myrrh which she had been using for a week before the salivation commenced, and which she had got from a herbalist. This sample of tincture of myrrh I obtained for examination, and tested for the presence of mercurial contamination with negative results.

The house in which she lived stood on a bare hillside near the top of the slope, and was surrounded by badly drained grass fields. There had been no illness among the cattle on the farm, the last illness of any sort that they had having been over a twelvemonth previously, when three cows were attacked with colic after being fed with bad "brewers' grains"; no sheep have been kept on the farm until quite lately, when (after the onset of patient's illness) some were put on the fields to graze. There had been no outbreak of foot-and-mouth disease locally, and this case of Pemphigus vegetans began anteriorly in point of time to the last outbreak of that disease in Britain.

Status præsens.—December 23rd, 1907: Patient is, and has been, perfectly lucid. She is pale, but does not display the earthy type of pallor met with in syphilitic affections. She answers questions in a hoarse whisper and is evidently caused pain by speaking (compare with Ravogli's case: "Her mouth was again affected with bullæ, which extended to the pharynx and probably to the larynx, as phonation was lost."*) She lies propped up in the dorsal decubitus, quite easy unless disturbed, when she is pained, if, for instance, her elbow, on which there is a raw area, is knocked against, etc.

She has ulcerated lips, coated with shreds of white sodden epithelium, and showing a few raw linear cracks running vertically. Around her mouth and over her chin there is seen a state of septic dermatitis with heaped-up crusts, the affected area differing markedly from an impetigo in that it is limited by a sinuous erythematous border fully half an inch in breadth; this, however, is distinctly better than it was some time ago. Near the eyes there are some small scattered spots of frank impetigo and also at the edge of the left nostril, while the upper lip is wet and glistening as though with an irritating nasal secretion. Her scalp is in an advanced state of Impetigo capitis, and the hair is matted together with mounds of dried secretion, the crusts being in places an inch deep and over. There are phlyctens (ulcerating) on the inner quadrant of the sclerotic of the left eye. From this eye also there is a muco-purulent discharge, and there is some slight tenderness over the upper lid; no chemosis or photophobia is present, and there is no iritis; both lids are a little thickened, and are tending towards rounding of the ciliary margins. The right eye, like the left, shows some degree of conjunctivitis, but not so markedly as does the other, and the patient describes how it has become infected by remarking that as she lay on her right side in bed discharge from the uppermost of the two eyes would run across the bridge of her nose and so down into the other. Both pupils are equal; they are presently contracted (possibly as the result of taking drugs or of local applications), but can with difficulty be got to react to light. She has ulcerated gums and a superficial glossitis, the surfaces being white and covered with ragged sheets of sodden epidermis. The fauces, uvula, and soft palate are reddened and covered with soddened denuded epithelium. She has great salivation, and is constantly spitting out a slightly yellowish watery fluid. She says that she is not, and has not been, specially thirsty. The salivation, though most profuse, is now appreciably less than it was ten weeks ago.

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* Ravogli, *Trans. Amer. Derm. Assoc.*, 1906, p. 154.

She says—but this I could not verify—that she has a discharge from the nose of a yellow fluid mingled with blood-clots. She also says that there has not been any discharge from either ear.

There is present over the extensor aspect of her left elbow a large cutaneous lesion of the size of the palm of a hand. It is in the form of a narrow ring of superficial ulceration surrounding a central area occupied by soft, insensitive epithelium of a dirty-grey colour. The surface of the ulcer is smooth, and shows an entire absence of granulation formation, and from its surface there soaks a blood-stained serum with no great admixture of pus. This lesion first showed itself as a small blister on the point of the elbow, and there are still to be seen towards the outer and extensor aspect of the elbow three vesicles each about the size of a pea, and filled with a clear yellow fluid. They are seated in normally appearing skin, have no zone of hyperæmia surrounding them, and are somewhat flaccid. In the folds of the groins are numbers of smaller vesicles and superficial pustules, the latter having a narrow surrounding reddish zone. There are small superficial, crusted ulcers with soddened greyish epithelium over the right shoulder and in the axilla on the same side, on the back of the neck at the right side, on the mons veneris and lower part of the abdomen, where they are becoming confluent, about the umbilicus, and on the left breast, while the left nipple is surrounded by a wet, ulcerative zone resembling a small flat condyloma of the areola. The vulva, perinæum, and peri-anal region is a mass of superficial ulceration and exuberant cauliflower-like vegetations moistened with a whitish secretion, and resembling a huge condyloma; behind this is spreading out on each side towards the buttocks. No vaginal examination was made, but it would almost appear as if the mucous surfaces at both extremes of the body were similarly affected, and she appears to have a vaginal discharge; but of this it is difficult to make certain without a special examination, as there is locally such an abundant secretion from the skin.

There is an indolent suppuration of the nail-bed of the left great toe, originating some time ago as a blister situated to one side of the nail and of which there is now no evidence. There is no desquamation of either the soles of the feet or the palms of the hand, these places being quite unaffected.

The cutaneous lesions itch and burn, and this is perhaps worst at night; in only one place, however, is there any evidence of pruriginous eruption, as a linear scratch on the left buttock, and this has itself become the seat of superficial ulceration and succulent epithelial desquamation. The patient states that all her skin-lesions commenced as blisters, and this statement is verified by the evidence of the adult daughter who is nursing her.

There are no glandular enlargements on either side of the neck, anterior or posterior triangles; no palpable enlargement and no tenderness of the parotids or of any other of the salivary glands, although these are in such an extreme state of functional activity.

Her saliva, on standing, settles into a bulky, lower turbid, semi-gelatinous layer, and a clear, watery upper part. It is very gummy and glutinous, pouring from one vessel to another like raw egg-albumen, or like the "ropy" admixture produced by pus with liquor potassæ. In reaction it is slightly acid. It is coagulated with strong nitric acid, a dense white, almost solid, diaphragm-like contact-ring being formed; though only to a very slight extent does coagulation occur on heating, and this latter does not clear on adding an acid. Liquor potassæ mixes with it, but produces neither precipitation nor clearing. It gives the Biuret reaction. The presence of sugar or other reducing substances cannot be detected with hot Fehling's solution. On digesting flour overnight in the saliva with mild warmth, subsequent testing of the fluid with Fehling's solution indicates by the resulting reaction the presence in it in good quantity of active amylolytic ferment.

The urine contains neither albumen nor sugar, nor is there gross excess of phosphates present—not tested quantitatively, however.

No bacteriological examination, either by film or culture, was made by me at any time in this case, nor was it indeed possible, but it may be inferred from the condition of impetigo present on the scalp and face that there was present a streptococcic infection, possibly as a secondary accident, and that there at least the infecting organism was of the nature of the *S. pyogenes*. The presence of phlyctenular conjunctivitis, on the other hand, was strongly suggestive of the action of a circulating toxine.

This presence of a phlyctenular conjunctivitis is of interest in this case, especially when viewed in connection with the fact that the occurrence of such a lesion is ascribed to the remote action of toxines, though whether it is to be regarded in this instance as an integral part of the clinical picture or as merely an epi-phenomenon it is difficult to say. So far as I have been able to find there is no mention in the literature of the occurrence of phlyctens on the bulbar conjunctiva or on the cornea during the progress of a case of Pemphigus vegetans, though Morris and others have reported instances where, in true pemphigus, the conjunctivæ have been involved.

The odour from the patient's sores is so heavy and offensive that her relatives have been sprinkling iodoform on the floor and bedding, as they infinitely prefer to tend her in an atmosphere laden with CHI_3 emanations. This odour is difficult to describe, but is wholly disgusting. It bears no resemblance whatever to that of ozæna (although this patient had, as already noticed, a sero-sanguinolent nasal discharge, she had no ozæna), but is more like the smell of highly putrid flesh. How Whitfield came to describe it as a "sweetish" smell * it is impossible to imagine.

Her temperature is only 99·2° F., but her pulse is more rapid than would be expected with such a low register, numbering as it does 108 per minute. The breathing is quite easy and regular, and respirations are not unduly accelerated.

She requires daily enemata to obtain evacuation of the bowels. There is no dysuria, but she has to micturate standing; this, however, dates from injury at the birth of her first child, twenty-four years ago, when, she says, "she strained herself." She has not yet attained the menopause, and is probably not pregnant just now; at least, that is her own belief, and menstruation occurred recently (five weeks ago, to be particular).

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* Whitfield, *Handbook of Skin-Diseases*, 1907, p. 119.

She has no pains in her bones or joints, and has no headaches. She has never experienced a defluvium of her hair, "rheumatic" pains of any description, skin-troubles, sore throat, or hoarseness of the voice—with the exception, of course, of the present condition. She is the mother of six healthy children, aged from 3 to 24 years; her eldest daughter is married, and is herself the mother of a healthy infant; her husband (*see later*) appears to be in fair health, as does her son-in-law.

Previously to the present time patient has always enjoyed good health, and she and her children have all had "good healing flesh"; no story suggestive of the incidence of Epidermolysis bullosa either in herself or in any of her blood-relations is obtainable.

She lives, as has already been indicated, on a farm in the country, and her dietary has always been fresh and suitably varied. She has taken fresh milk and eggs, vegetables, jams, etc., in sufficient quantity, and has, in spite of dental mischief, always had a good digestion and kept free from gastric discomfort. A possible scorbutic ætiology of her condition is thus negatived.

Without exception the cutaneous ulcers are superficial, and are not of the appearance to be expected from pyogenic abscesses in the course of a pyorrhœa alveolaris. Besides, constitutional disturbance and elevation of temperature are not marked features of the case.

She has neither drop wrist nor drop ankle, and no neuritic tenderness is present in the calves of the legs. As has been already mentioned, before the onset of the salivation the only drug she had been taking had been some tincture of myrrh as a gargle with water. She has, nevertheless, been taking during this illness, up to the present and previously to my seeing her, a large and varied assortment of drugs for her present condition: an ichthyol ointment, an iodoform dusting powder, a lotion of Condy's fluid, an inhalation, demulcent pastilles, a mouth-wash containing Sanitas (?), glycerin of borax for the mouth; an eye-ointment possibly containing atropine, a mixture with tinct. ferri perchlor., and for the past week or ten days she has been having mercurial inunction. This latter makes her mouth even more sore than it is already and gives her a sense of suffocation—possibly from tumefaction of the mouth and pharynx—but does not, she thinks, appear to specially increase the already distressing and constant flow of saliva.

Dr. Findlay writes me that under his care "the disease did not improve under the usual treatment for syphilis. . . The excessive salivation, which was bad even when the patient was under simple and mild antiseptic gargles and no specific treatment, . . . grew much worse when the specific treatment was pushed," under the advice of a consultant.

On my first visit the following *treatment* was recommended: Juice of lemons, well-boiled cabbage, pounded chicken; fresh milk and milk made up in sops, gruel, and milk puddings. Continue to cleanse mouth with glycerine of borax. R Tinct. bellad. ℈iv, pot. chloratis ʒij, glycerini ℥j, aq. ad ℥viij; *s. & m.* S. ℥j *quartis horis.* R Lot. acidi carbolici (1 in 40) ℥xviij, glycerini ℥ij, tinct. opii ℥ss; *f. m.* S. Apply on lint to excoriations, and renew several times daily as required. Cease all other internal and external applications.

December 25th (two days later).—Salivation appreciably less, though patient still spits profusely. Pupils not yet reacting to the atropine, though the back of her throat is beginning to feel dry. Pulse to-day 112 per minute.

December 27th.—Slight carboluria. Pulse-rate 110. To cease applying the lotion to the perinæum, and after careful drying to use a dusting powder of pulv. acidi borici, pulv. amyli āā partes æquales. For the onychia on toe, at present to use warm bread poultices rather than carbolic applications.

She to-day informs me that for several weeks before salivation ensued she had been under treatment for what had been described as an ulcerated throat.

January 4th.—Her daughter who has tended her in her illness had lately an erythematous and itching patch on the inside of her thigh. It only lasted a day and has left no trace.

January 10th.—On the 28th of last month patient was admitted to the local hospital, and I visited her there to-day. A diagnosis of syphilis having once again been made, she has been treated with mercuric iodide internally, and black wash locally. The house-surgeon states that *she has not responded well to the treatment.* The skin-lesions are obviously worse; they are spreading, and patient still stinks horribly, the offensive odour being evident on coming into the well-ventilated side room in which she has been placed. She is still salivated, but not so badly as before; she speaks more easily and her tongue is perhaps not so swollen as it was three weeks ago, but it is still raw and desquamating. The phlyctens on her sclerotic have absorbed, leaving a vascular patch; the conjunctivitis on both eyes is still present. During her residence in hospital her temperature has fluctuated between about 101° and 99° F., but it has never been normal; her pulse-rate throughout has been about 108 per minute, and her respirations up to 30.

I am informed that this afternoon she had a syncopal attack, and that her husband was telegraphed for as it was thought she would die. She is sick of the hospital, and the people there are sick of her and want to be rid of her. She keeps a nurse constantly employed attending to her sores, and with no time to do anything else, and the hospital people state, as one of the reasons for their wish to get rid of her, that they have no accommodation for treating venereal cases.

Patient's husband, being very drunk, has interviewed me at an absurdly late hour to-night, in company with a convivial friend of his, in order to loudly and incoherently protest against any idea of venereal ætiology in his wife's illness.

On January 17th she was removed from the hospital and taken to Manchester, bearing the journey well. Four days afterwards she died very suddenly at 1 p.m., the disease thus having proved itself fatal in the relatively short period of seventeen weeks. I understand from the return (for the corrected death returns) sent by the local registrar who received her death certificate to the medical officer of health of the district from which she came, that it was filled in as "toxic dermatitis and toxæmia."

To conclude the story, it should be observed that I kept the family under intermittent observation for some sixteen months after the death, and in that time no indication of syphilitic disease was shown by either her children or her grandchildren, her son-in-law, or her husband, or the second wife (who was in evidence but six months after the fatal termination of the case), and that the only cutaneous conditions shown by any of them were trivial and unimportant, and really only came under notice at all owing to the impression left in their minds by the course of the pemphigus and their fear of its infectivity.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, March 17th, 1910, Dr. COLCOTT FOX, President, in the Chair.

Dr. H. G. ADAMSON showed (1) two cases of *chronic superficial dermatitis in patches with symmetrical distribution.* These cases were examples of an eruption to which the exhibitor had drawn attention in the *British Journal of Dermatology* (April, 1908, vol. xx, p. 109) which was seen mainly in children, which consisted of reddish, roughened, circumscribed patches, of from half an inch to several inches in diameter, with roughly symmetrical distribution on the sides of the face, on the arms and legs, and sometimes on the trunk. These patches seemed to be made up of pin-head-sized follicular papules so that they resembled patches of Lichen scrofulosorum, but on closer inspection it would be found that the apparent papules were really small superficial crusts. Histologically these were shown to be dried-up vesicles which had formed in the horny layers of the epidermis. A striking feature of the eruption was its *marked resistance to treatment,* and the exhibitor had had many cases under observation for years without having been able to cure the eruption. Chrysarobin would sometimes remove the lesions for a time, but it always returned in the same areas. In the paper referred to Dr. Adamson had discussed the diagnosis of these eruptions from Lichen scrofulosorum, from seborrhoic eczema, from Parapsoriasis "*en plaques,*" and from Parakeratosis psoriasiformis, and he believed it to be distinct from all of these. It was possibly the same eruption as had been described by Boeck as "Eczema scrofulosorum," but in not one of the cases had there been any evidence of tuberculosis, and two cases tested by Calmette's test had given negative results. The occasional association with otorrhœa and with Impetigo contagiosa in the early stages had at first suggested to him a possible microbic origin, but repeated attempts had failed to demonstrate the presence of a micro-organism, while the failure to cure the eruption by local measures seemed to negative a local infection.

Both the cases shown were typical examples as regards the character of the lesions, their distribution, and their persistence. M. C—, aged 4 years, had had the eruption some eighteen months. It had begun on one thigh and the other patches had since gradually appeared. There were now about twelve circumscribed, red, rough patches, with almost symmetrical distribution on the face, arms, thighs, and legs. On each side of the face, in front of the ears, was a patch extending from the forehead nearly to the angle of the jaw—a characteristic position. On superficial examination many of the patches were strongly suggestive of Lichen scrofulosorum, but closer inspection showed the pin-head-sized elevations to be minute crusts. The eruption did not give rise to itching. There was no deep-seated redness and swelling as in eczema, and the patches did not become eczematised when subjected to local irritation. The second case, L. G—, was a little girl, aged 12 years, who had been attending the hospital for the past two years. The first diagnosis had been Lichen scrofulosorum, but it had soon been found that this was not correct and that the case belonged to the class which had just been described. In this case the patches were typical and had the typical distribution on the sides of the face, the arms and the legs, but there was an unusually large number of patches on the trunk, which fact had probably led to the earlier diagnosis of Lichen scrofulosorum. Among the applications which had been used were chrysarobin, salicylic acid and resorcin, pix carbonis preparata and Lassar's paste, but no treatment, either stimulating or soothing, had led to any but slight temporary improvement.

Dr. Adamson showed (2) a case of *Lichen planus annularis*. The patient was a man, aged 40 years. He had had the eruption for twelve months, and for six months he had taken arsenic in full doses without improvement. The eruption occupied mainly the forearms, the lower part of the back, the thighs, and the legs. It consisted of scattered papules of the ordinary flat-topped angular type intermixed with ring-like lesions of all sizes up to that of a sixpenny-piece. The rings consisted of a narrow, raised, flat-surfaced, violet-coloured circular band enclosing a pigmented area. That they had arisen by the outward extension of single papules could be clearly seen by observing the different sized rings, from that of a papule with a slight central depression, through all stages up to the largest rings. There were no lesions on the mucous membrane of the mouth, but on the glans penis there were three well-marked annular lesions of the size of a threepenny-piece to that of a sixpence. There was a distinctly annular lesion on the palm of the right hand. The case was now being treated by perchloride of mercury internally. The exhibitor had a few days ago seen another case which resembled this in all points, and in which also there were large ringed lesions on the glans penis. In a third case under observation at the present time the general eruption was that of ordinary Lichen planus, but there were three or four large annular lesions on the back.

Dr. MACLEOD said that he had shown a similar case of annular Lichen planus in a man, aged 26 years, in January, 1908. As in Dr. Adamson's case, annular lesions were present on the glans penis and the rings were formed by partial extension of a single papule. He had had the case under observation ever since and had found it most resistant to treatment. At the present time the ringed lesions had disappeared, but there were several hypertrophic patches on the legs. New groups of papules still kept coming out from time to time.

Dr. WHITFIELD said he had noticed that if one of the lesions became annular the others did so too. The only place on which lesions frequently became annular without the whole eruption doing so was the glans penis, where he thought annular lesions were common.

Dr. J. J. PRINGLE said that in his experience the intra-muscular injection of soluble arsenates produced more rapid and more definite improvement than any other form of treatment in cases such as that shown, the first evidence of amelioration being the diminution or cessation of itching. He was fully aware of the bad results reported from this method of treatment, but he had never observed them, except in one case, when rather severe gastro-intestinal symptoms on two occasions followed seven-grain doses of the drug employed (orsudan). In the same patient four-grain doses injected once a week caused no bad symptoms and the patient rapidly improved. Dr. Liveing prescribed perchloride of mercury solution habitually for many years, but he (the speaker) had never been able to satisfy himself as to its efficacy, or, indeed, of any other drug except arsenic, which had to be pushed to its physiological limits if its beneficial action was to be obtained, and this course of action was often impracticable. The point ought not to be lost sight of that some cases of Lichen planus spontaneously disappeared in the course of a few months, while others lasted apparently indefinitely.

Dr. HALDIN DAVIS showed a case of *Linear nævus of unusual type*

(Nævus acneiformis). The patient shown was a little girl, aged 4 years. She was a healthy child, and the condition which was the occasion of her appearance before the Section gave rise to no inconvenience. On the left side of the neck there was to be seen a double row of black dots set at regular intervals and forming a figure on the skin of the same shape as a note of interrogation (?), but with the convexity pointing to the left instead of to the right. On closer examination each of these dots was seen to be a comedone, firmer and of larger size than the ordinary comedone, projecting from the mouth of a follicle. One of them had been infected by one of the skin-organisms and had given rise to a pustule such as are commonly associated with an infected comedone in Acne vulgaris. According to the patient's mother the condition had been noticed during the first month of the patient's life, but the extent and size of the eruption and the size of the black dots had gradually increased to their present dimensions. From the history and the regular arrangement of the large comedones, a diagnosis was made of a linear nævus affecting the sebaceous glands. It evidently is of the same pathology as the case exhibited by Dr. Selhorst, of the Hague, at the International Dermatological Congress in 1896, but Dr. Selhorst's case was in a much older patient (also a female), and the condition was far more extensive, and the adventitious inflammation due to infection with skin bacteria had caused pus-formation and scarring, which had interfered considerably with the pattern of the congenital nævus. Following the nomenclature of Dr. Selhorst, the present case might be called one of Nævus acneiformis unilateralis. The treatment proposed by the exhibitor of the case was excision as far as possible (which would give the opportunity of a biopsy, the result of which he hoped to show the Section at a later date), and cauterisation of the remaining follicles.

Dr. GRAHAM LITTLE showed (1) with Dr. J. H. SEQUEIRA a case of *Pseudo-xanthoma elasticum.* The patient had been seen by Dr. Little at St. Mary's Hospital about seven years ago, when she was about twelve years of age, and was subsequently shown to the Dermatological Society of London. The clinical appearance had not changed appreciably in the interval. She had now come up to Dr. Sequeira's clinique for treatment. A section of the skin was obtained by Dr. Little seven years ago and the specimen exhibited at the meeting showed the characteristic appearances of the disease as described by Balzer, Darier, and others. The elastic tissue seemed to form the bulk of the tumour; it was greatly increased in quantity, and was swollen and broken up into fragments and granular *débris* which occupied the corium below the papillary zone.

The **President** said he remembered, many years ago, Sir Malcolm Morris kindly asking him to go and see two sisters from Ireland, in whom the diagnosis of Pseudo-xanthoma elasticum of the neck was made. They looked exactly like the present case.

(2) *A case for diagnosis.* The patient was a man, aged 22 years, who complained of painful areas at the back of the body, over the sacrum and buttocks. In those positions where pain was located there could be felt on deep palpation a circumscribed, cutaneous or subcutaneous swelling, about the size of a shilling; opinions differed as to whether this swelling was in or under the skin; the surface was not altered appreciably, and but for the pain complained of the swellings would probably have escaped notice; these were barely appreciable to sight, but quite definite to touch. The history which the patient gave was that he had been kicked in the groin some two or three months ago, that a swelling had formed on that situation, and that this swelling had been transposed to the back—an obviously fictitious explanation not unconnected with his desire to obtain compensation for the injury. It was not certain how long the swellings had lasted at the back; there was no inflammation round them and they probably could not have been produced artificially. One of the swellings had been excised and was now under examination, and a histological report would be furnished later.

Dr. **Whitfield** said that on lifting the skin between the finger and thumb he obtained a sensation of marked lobulation, while the skin felt quite soft over the thickening. He believed that the case was one of multiple, painful lipomata, of which he had seen several instances.

(3) *A case for diagnosis.* The patient was a man, aged 48 years. He had had, three years ago, an affection of both legs, which had been treated for six months in St. George's Hospital as neuritis, for which he had been admitted. Six months later he noticed "discoloured places" on the legs, and at the present time the following clinical condition was noted: On the middle of the inner surface of each leg

there was an irregular patch of bluish-purple skin raised above the surrounding level, not altered by superficial pressure upon it, and having persisted for the last two years unchanged. This patch had a map-like outline, covered an aggregate area of about three inches, and at the free margins numerous small telangiectases were noticed—cayenne-pepper-like spots—which did not alter on pressure. Similar smaller patches were present on the skin just below the internal and external malleolus on both legs. There was, and had been, no ulceration of the surface, and there were no subjective symptoms. Varicose veins were present conspicuously on both sides. The tint varied from time to time, being darker or lighter. There were no lesions elsewhere. The colour, the outline, the symmetry, and elevation of the patches suggested the diagnosis of Lichen planus hypertrophicus to the exhibitor, but no history or evidence of typical Lichen planus could be obtained, and the small telangiectases at the margin were not suggestive of that diagnosis. The exhibitor had had another exactly similar case, with similar distribution to the present one, which had been shown at the Section. In that instance ulceration had finally occurred in the raised purplish patch, but rather recalled a peculiar disease which Schamberg* had described—an instance of which the exhibitor had shown† at the Dermatological Society of London. In both Schamberg's and this latter case a probably hæmorrhagic pigmentation had been noted on the knees of a boy, with telangiectases at the margin of the main patch, which had been equally chronic in duration. In that case the diagnosis of Lichen planus had also been suggested, but no opportunity of confirming it had occurred. A biopsy would be performed in the present case, and a report supplied later.

Dr. H. G. **ADAMSON** was of opinion that the affection was Lichen planus hypertrophicus.

Dr. **PRINGLE** was perfectly familiar with the clinical condition presented by the patient. He had always regarded it as a "hæmostatic" phenomenon, associated with the dependent position of the part and a certain, but variable, amount of varicosity of veins. The term "Dermatitis hæmostatica" had been aptly applied to it some years ago, he thought, by Dr. Klotz, of New York. He could not admit that the disease presented any affinity, either pathological or clinical, to Lichen planus. The essential lesions, which were easily visible at the edges of, and outside the main patches of, the case exhibited, were persistently dilated vascular telangiectases, from which the blood could not be expressed on diascopy. When these innumerable small lesions coalesced a certain amount of thickening and keratosis occurred, but the resemblance to Lichen planus thereby produced was of the most superficial character. In his opinion the condition was analogous, although, of course, not identical, to the "angio-keratoma" on a very large scale. If a pus infection supervened the patient would present an ordinary "varicose ulcer." He reminded the Fellows of the Society that there was no direct proportion between the amount of varix and that of dermostatic dermatitis present in any given case. In the man exhibited there was decided, although not very marked, varix.

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* *Brit. Journ. Derm.*, 1901, p. 1.

† *Ibid.*, 1902, p. 266.

Dr. WHITFIELD considered it more probable that varicosity of the veins was responsible for the alteration in the skin—all degrees of discoloration were seen in the skin of the legs affected with varicose veins. He regarded this as an exceptional degree of the quite common hæmorrhagic changes seen in varicose veins.

Mr. J. E. R. McDONAGH showed (1) a case of *Phlebitis nodularis syphilitica*. S. W—, a woman, aged 38 years, had come up to St. Bartholomew's Hospital on September 4th, 1909, with a typical secondary syphilitic eruption.

Under treatment by injections of mercury salicylate the rash had rapidly improved.

On December 1st the patient complained of severe pain on the inner side of the thigh. There was nothing to see, but on palpation one could feel, in the line of the internal saphenous vein, about 1½ in. above the knee, a hard, tender, spindle-shaped swelling, roughly 1 in. in length.

The diagnosis of syphilitic phlebitis was made.

As time went on this swelling came more and more to the surface, and finally ulcerated, giving the picture of a late syphilitic ulceration.

Papules developed along the course of the vein, both above and below the ulcer.

"Nodules" of phlebitis were also found in both legs, some of which had come to the surface and ulcerated.

The patient had varicose veins.

The exhibitor said that one should draw the distinction between this case and the one showed before the Society some time back, under the name of *Erythema nodosum syphiliticum*.

The syphilitic Erythema nodosum resembled the true Erythema nodosum so closely that it rightly deserved that name. It was a rare syphilitic eruption, which made its appearance before or synchronous with the secondary rash, quickly disappeared, showed no tendency to ulceration, and was limited to the legs, especially the anterior surfaces. The syphilitic Phlebitis nodularis was a later manifestation. It most commonly affected the lower limbs because of the prevalence of varicose veins, and the lesions almost invariably ulcerated.

The exhibitor was indebted to Dr. Adamson, who had been kind enough to allow him to show the case.

(2) *A specimen of Spirochæta pallida prepared with Indian ink, and demonstration of the method.* The specimen showed the *Spirochæta pallida*—white against the dark Indian ink background. There were also some red blood-corpuscles, which aided in the diagnosis of the specific spirochæta, since the diameter of a corpuscle was roughly half that of the organism.

To prepare the specimen a glass pipette should be driven through the skin at the border of the chancre and along underneath it. This was better than getting the material from the surface, since one obtained no extraneous organisms.

A little blood would run up the pipette, which should be kept vertical for a few minutes until the serum had separated, and then that part which contained the blood-corpuscles should be broken off so as to allow a drop of the serum (which would contain enough corpuscles) to fall upon a clean side. Around the drop should be placed six or seven platinum loopfuls of distilled water and the same quantity of Indian ink (Günther and Wagner).

The three substances should be thoroughly mixed and spread out on the slide with another glass slide, in the way that a blood-film was made, allowed to dry, and examined with an oil-immersion lens.

This was not only the simplest, but the most satisfactory way of demonstrating the spirochæta. It could be found in this way in every chancre, obviating the expense of a dark-ground condenser.

Dr. G. NORMAN MEACHEN showed a case of *Epidermolysis bullosa.* The patient, a young married woman, aged 29 years, was sent to the Prince of Wales's General Hospital by Dr. J. Mansie, of Kingsland Road, where she was first seen by the exhibitor. Her father, aged 32 years, and a sister, aged 13 years, both died of phthisis. Another sister was now in a home for incurables with "tuberculosis of the joints." She had been married eight years; there were no children and no miscarriages. The special liability to blistering of the skin had been present "as long as she could remember." A bulla, which was occasionally hæmorrhagic, would arise upon any part of the cutaneous surface from slight traumatism or from the pressure exerted by tight garments. She was not aware of a like condition in any of her ancestors. The general health was good.

On examination the lower limbs were covered by excoriations and shallow ulcerations in various stages of healing, as well as several minute, atrophic scars of older lesions. One or two fresh bullæ were present in the left axilla and upon the left thigh. The nails presented a very curious dystrophic condition, the distal portion of the nail-plate being broken away and the remaining proximal portion much thickened and heaped up, as well as being also longitudinally striated. All the nails, both of the hands and the feet, were similarly affected. A differential blood-count, made by Dr. MacDonald, pathologist to the hospital, showed that there was no eosinophilia, nor, indeed, any special feature, except that there were "large numbers of hæmatoblasts very much in excess of the usual." There had been no affection of the buccal mucosa nor of the conjunctivæ.

The PRESIDENT said there was some atrophy going on in the legs. There was great vulnerability of the skin, so that a little touch caused an effusion of serum and blisters formed. He would remind the members of a woman long under his care, who first suffered in adult life from ordinary pemphigus, and for many years up to the present time the typical picture of epidermolysis had been established. Sir Malcolm Morris published a somewhat similar case with portrait in the *British Journal of Dermatology* some years ago.

Dr. F. PARKES WEBER and Dr. R. H. NORMAN showed a case of *argyria*. This case, when shown recently before the Clinical Section of the Society, was thought to be an example of bluish hæmochromatosis of the skin, similar to the pigmentation in a patient who was formerly in a hospital of Montreal, where she was known amongst the inmates as "Blue Mary." The case of "Blue Mary" had been described by Dr. Maude Abbott in the *Transactions of the Pathological Society of London* (1900, vol. li, p. 66), and a Canadian doctor who had seen "Blue Mary" at Montreal had said that the pigmentation in the present case resembled her pigmentation but was less in degree.

The present patient, an unmarried woman, aged 46 years, was remarkable for a decided, though slight, ashy-bluish tinge of her skin, which was best seen on the forehead, at the sides of the nose, around the mouth, and on the trunk, but was scarcely noticeable on the arms and legs. The mucous membrane of the mouth had a very slight slaty tinge, similar to, but less marked than, that of the face. On the parts flushed with blood, including the lips, tip of the nose, pinnæ of the ears, and the fingers, the peculiar coloration could only be detected when the blood was pressed out of the skin—for instance, by a flat piece of glass or a glass lens. There was no pigmentation of the sclerotics, such as was found in ochronosis. There was no chromhidrosis or "Seborrhœa (steatorrhœa) nigricans." There was no true cyanosis, except sometimes in cold weather, when the hands became blue. Nothing abnormal could be detected in the thoracic or abdominal viscera at present. Neither spleen nor liver was enlarged. In 1890, however, she was treated in a London hospital for gastric ulcer. Since then she has suffered occasionally from pains in the epigastrium or chest after eating. In May, 1907, she was operated on by Mr. E. C. Stabb, at the Great Northern Hospital, for hernia, a femoral hernia on the right side being found to contain an adherent vermiform appendix, which was excised. The bluish coloration of the skin was present at that time, and was thought to have come on gradually about six years previously (about 1901. Examination of the patient's blood (Dr. G. Dorner) gives the following results: Hæmoglobin (by Sahli's method), 80 per cent. of the normal; red cells, 4,653,330 in the cubic millimetre; white cells, 12,330 in the cubic millimetre. Stained blood-films show nothing abnormal. By spectroscopic examination only the normal absorption bands of oxy-hæmoglobin can be seen; there is certainly no band due to sulph-hæmoglobin or methæmoglobin. The blood-serum is clear. The urine is free from albumen, sugar, and other abnormal constituents, and does not darken on being kept. Systolic brachial blood-pressure, 135 mm. Hg. Menstruation natural. Excepting for chronic constipation and occasional headache, the patient has no complaints. She thinks that the peculiar coloration of her skin is not progressing. She has no idea what could have caused it. No lotions (such as might have contained silver nitrate or carbolic acid) have ever been used. A patent medicine and some "liver pills," which she has employed for many years as purgatives, have been chemically examined for a trace of silver, but with completely negative results. The patient has now, however, produced an old prescription for a pill given her for gastric symptoms, and dated December, 1889. This pill contained $\frac{1}{4}$ gr. of silver nitrate and $\frac{1}{2}$ gr. of opium powder, and was to be taken three times daily. She thinks she took this pill, on and off, for quite two years after coming out of the hospital in 1890, and continued to take it occasionally for gastric pain until seven years ago. The present case is of interest in regard to those mentioned by Dr. Radcliffe-Crocker,* in which he was inclined to attribute the slaty pigmentation of the skin to hæmochromatosis, because no history of the ingestion of nitrate of silver was forthcoming.

Dr. Whitfield showed a woman, aged 40 years, suffering from a *peculiar form of pigmentation of the face and neck.*

The history was that the patient had been under Dr. Whitfield's care about three years ago for chronic eczema of the arms, due to scrubbing, and had also returned about eighteen months ago for a recurrence of the same trouble. On the first occasion nothing peculiar in the way of pigmentation had been observed, but on the second occasion it was noticed that her cheeks were very dark.

She had been kept under observation for the last eighteen months, and the pigmentation had certainly become more marked during that time. Quite recently, on stripping the neck, it was noticed that the thyroid was enlarged, and it was then found that she had a slight, fine tremor of the hands, so that it was possible that she was developing Graves' disease, though she had no eye symptoms.

Arsenic had not been given at the hospital, and no history could be obtained of her having taken any.

The pigmentation occupied the posterior parts of both cheeks immediately in front of the ears, and extended from the line of the malar eminence down to the angle of the jaw. Below this it was limited to the sides of the neck, and hardly affected the front at all. It did not extend much on to the chest. There was no marked pigmentation elsewhere if one took into consideration the fact that the patient was a dark woman.

On the face the pigmentation was an even sheet with small, white areas of about a quarter of an inch across dotted all over it, strongly suggestive of arsenical pigmentation. On the neck the pigmentation was less even, being arranged in an irregular pattern not unlike that of Lichen planus, but no papules had ever been seen upon it. In a side light the pigmented areas could be seen to have a peculiar sheen upon them almost as if they were polished.

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* Radcliffe-Crocker, *Diseases of the Skin*, third edition, 1903, pp. 614, 615.

The patient was in good health, with the exception of a little neuralgia, for which she had taken headache powders, but Dr. Whitfield said that he did not think most of such powders contained arsenic. He was of opinion that the case was in reality early Graves' disease associated with pigmentation.

Dr. Whitfield said that this association was well known, but that in his experience most of the pigmented cases had been either in the hyper-pigmentary stages of leucodermia, or had been due to the arsenic with which the patients had been treated.

Dr. J. H. SEQUEIRA showed a case of *Keratodermie blenorrhagique.* The patient was admitted to the London Hospital under the care of Dr. F. J. Smith at the end of February, 1910. Dr. Sequeira was asked to see the case, and on his recognising the condition Dr. Smith very kindly gave his consent to the patient being brought before the Society. Dr. Sequeira desired to tender his grateful thanks to his colleague for the opportunity of demonstrating the first instance of this remarkable condition which has been shown in this country.

William L—, aged 31 years, a clerk, unmarried, was attending the London Hospital sixteen years ago with acroasphyxia and phenomena suggesting Raynaud's disease. Cicatrices were still present on the nose and lobules of the ears, left by the conditions then observed. The patient had enjoyed good health until six years ago, when he had an attack of gonorrhœa, which ran a simple course. In December, 1909, one week after exposure to infection, the patient again noticed pain on micturition and discharge. He treated himself with sandalwood oil, and in two weeks the discharge ceased, and has not returned. At the time of the appearance of the urethritis a small superficial sore, evidently a soft chancre, appeared on the glans penis. With the suppression of the gonorrhœal discharge, the right knee became swollen and painful, and about a week later the patient consulted a medical man, who advised rest in bed. He had been in bed almost continuously since. There has been no history of rash, sore throat, or falling hair. Wassermann's test was performed, with negative result.

In the first week in February small swellings appeared on the soles of both feet; the patient described them as feeling like "pimples." At the same time the right elbow, right shoulder, and right sterno-clavicular articulations became swollen, very painful, and tender: There was also painless swelling about both ankles. After several weeks' treatment with "tonics" the patient was sent to the hospital, and admitted under Dr. Smith.

On admission there was no discharge from the urethra, but the skin of the penis and scrotum was in an eczematous condition, and there was the small scar of the soft chancre on the penis. There were synovitis and peri-articular swelling of the right knee, accompanied by extreme tenderness. The left knee was also swollen, but not tender. The right elbow could neither be flexed beyond a right angle nor fully extended. The right sterno-clavicular articulation was swollen and tender. The other joints were free. The temperature was 100·5° F., and had varied between that point and 99° F. throughout.

The patient was in a very cachectic condition, anæmic, and wasted. There was no evidence of visceral complications.

The soles of both feet presented a remarkable appearance. Along the inner border of each was an irregular horny mass with a nodular surface. Smaller masses were present along the outer side of each sole, and the intervening areas were covered with a brownish-yellow parchment-like thickening of the epidermis. The nodules were of a dark brown or purple-brown colour. The individual swellings measured 0·3 to 2 centimetres across from base to base. The masses as a whole resembled very closely a mountain range on a relief map, a description which has been given by French writers. Although most developed on the soles, the excrescences have crept towards the dorsum on both the inner and outer aspects of the feet. The area affected was sharply limited by a narrow zone of hyperæmia. With the exception of small isolated nodules at the root of the great toes the toes were free. The lesions felt like horn, and on puncture no fluid could be withdrawn from them. The palms were quite unaffected.

The patient had been under treatment by gonococcus vaccine and the arthritic symptoms were abating. Some of the small nodules, however, had been observed to increase slightly in size. Since the patient was shown at the meeting a portion of the carapace on the sole of the right foot had separated, leaving a reddish-brown patch.

An early nodule was removed for histological examination and the following report was received from Dr. Turnbull:

"The nodule is covered by a very thick, horny cap. The interpapillary processes beneath this are much lengthened. The papillæ are very œdematous and much infiltrated. In the subjacent dermia there is no œdema, but a little infiltration especially around the vessels. The infiltration in the dermia consists of lymphocytes with large number of mono- and bi-nuclear plasma-cells (Unna, Pappenheim). There are a few neutrophile polymorphonuclear leucocytes in the upper part of the papillæ and many in the capillaries. Only one or two eosinophiles were found. No mast-cells were seen. In the epidermis the lower part of the Malpighian layer shows clear prickle borders; karyokinetic figures are present in the basal layer. Varying numbers of neutrophile leucocytes are seen in these layers. A stratum granulosum is only recognisable in places. At this level there are very large numbers of neutrophile polymorphonuclear leucocytes, in masses occupying rounded spaces formed by the degeneration of epithelial cells. The superjacent horny layers contain many flattened nuclei, and collections of neutrophile leucocytes lying in strands between the horny layers. A superficial layer of horny substance without nuclei is present in part of some of the sections."

[*Note by Dr. Sequeira on the literature of this affection.*—Keratodermie blenorrhagique was first described by Vidal (*Soc. de Dermatologie,* January 12th, 1893), and several cases are recorded by other French observers. It only occurs in the course of gonorrhœa with severe articular and general manifestations. The urethritis has been a minor feature in all. Occasionally visceral complications have been observed, and grave debility and cachexia are the rule. The cutaneous manifestation, which presumably must be considered as evidence of toxæmia, occurs in the first few weeks of the disease at the same time as the joint affections. The feet and hands, and rarely the trunk, are affected. As a rule the condition appears to last two or three months, when the plaques fall off, leaving reddish-brown macules. In Jacquet's case (*Soc. Med. des Hôp.,* January 22nd, 1897) the patient had six attacks of gonorrhœa. In the first there was urethritis only, in the second and third urethritis and arthritis, in the fourth, fifth, and sixth attacks urethritis, arthritis, and keratodermia. An interesting case was described by Chauffard in 1897 (*Soc. Med. des Hôp.*, April 23rd, 1897). The exhibitor has been unable to find any record of a previous case shown at any of the London societies.]

The PRESIDENT said that, so far as he was aware, this was the first case shown in this country, at any rate the first case brought before the Dermatological Section or Society.

Dr. WHITFIELD advised the use of the X-rays for the lesions on the feet. It was a wonderful therapy in gonorrhœal warts.

Dr. SEQUEIRA agreed that X-ray treatment should be tried, bearing in mind the histological resemblance of the lesions to gonorrhœal warts.

CURRENT LITERATURE.

CONGENITAL SYPHILIS IN INFANTS. ISAAC A. ABT. (*Interstate Med. Journ.*, April, 1909, p. 259.)

IN this paper the author considers the pathological changes and clinical manifestations of congenital syphilis. In the majority of cases, he says, syphilitic children are born with some symptoms of the disease; in a few cases manifestations occur shortly after birth. Many clinicians of experience doubt the occurrence of congenital syphilis years after birth without the occurrence of early symptoms. They believe that the early symptoms were overlooked. Congenital syphilis is almost at once a general disease, and for this reason the lymph-glands do not play the part that they do in the acquired form. The skin-lesions occur, for the most part, later than those of the internal organs. Two forms occur which are not found in the acquired disease—diffuse hereditary syphilitic skin-infiltration (Hochsinger) and pemphigus. Osteo-chondritis is one of the most important and characteristic lesions of congenital syphilis. Necrosis and caries of the nose and jaw-bones occur, especially when the mucous membrane is involved. Perforation of the hard palate and disease of the nasal bones, with production of saddle-nose, are changes which are characteristic of congenital syphilis. Parrot has described caries and perforation of the skull-bones with subsequent meningitis.

Other varieties of bone involvement are: Diffuse rarefaction (osteo-porosis), retardation of bone growth, gummata of bones and periosteum, or of soft parts with extension to bones (gummata of bone are rare during the first stage of the disease), slowly progressive osteitis of long bones, hydrocephalus, and rachitis. As regards the last, Parrot thought that congenital syphilis produced rachitic changes. Lees and Barlow consider cranio-tabes to be syphilitic in origin. Comby and Kassowitz think that syphilis does not cause rickets, but lowers the resistance of the organism so that the infant easily becomes affected with it. The joint affections, which belong to the early period of congenital syphilis, are never primary in nature, but are associated with other bone-disease, particularly syphilitic osteo-chondritis.

Changes in the muscles are rare. The lesions of the sterno-cleido-mastoid usually consist of hæmorrhage into the muscle and are traumatic in origin. Kassowitz pointed out that the lesions in the muscles, which were supposed to consist of a gummatous degeneration, were really caused by an extension from the periosteum, and histological examination by Hochsinger showed the muscular affection to be a myositis, not a gummatous degeneration.

The changes which are observed in the heart may occur shortly after birth, or even during fœtal life. The pathological changes are similar to those which occur in the tertiary stage of the acquired variety. In both varieties vascular changes are the most marked lesions. Circumscribed gummata are characteristic, though interstitial myocarditis may occur.

Hektoen demonstrated interstitial myocarditis in an infant, aged 6 weeks. Carpenter believes that congenital syphilis may be a cause of congenital heart disease, and thinks that it accounts for some cases of fœtal carditis and endocarditis. Fatty degeneration of the heart has been observed in a new-born infant who died of congenital syphilis. Affections of the pericardium are very rare.

Thickening of the muscular coat and adventitia, particularly of the smaller vessels, producing small hæmorrhages, *e.g.* in the kidneys, liver, and muscles, are the vascular changes occurring in congenital syphilis. Mracek described a condition which he called "syphilis hæmorrhagica neonatorum." He believes that a certain percentage of hæmorrhages of the new-born depend upon vascular changes of syphilitic origin.

The lesions of the lungs consist of gummatous nodules, diffuse fibroid inflammation (white hepatisation of Virchow), and interstitial pneumonia.

Catarrh of the mucous membrane of the nose, the so-called syphilitic coryza, is a constant and characteristic clinical symptom, and important from the diagnostic standpoint. Hochsinger, who agrees that there is a diffuse hyperplastic inflammatory condition at the onset, recalls, however, that the process may lead later on to suppuration, erosions, ulceration of the cartilage, and deformity of the nose.

Congenital syphilitic lesions of the gastro-intestinal tract are rare. In the stomach, diffuse infiltrations and circumscribed gummatous formations have been described in very young infants. In cases where the stomach is involved, the small intestine is also usually affected; in the large intestine gummatous nodules, diffuse infiltrations, and ulcers may occur.

The liver is very frequently affected, the inflammation being either diffuse or circumscribed. In six autopsies performed by Hochsinger no case of ascites or icterus occurred. The absence of the latter is thought to be diagnostic. Diffuse infiltration, intercellular hepatitis, similar to the process in other organs, is the common mode of attack; the vascular walls are infiltrated, and there may be naked-eye gummata disseminated throughout the organ. Gummata of the liver which are visible to the naked eye are rare in children.

There is little to be said about the anatomical lesions produced in the nervous system by congenital syphilis. The meninges are perhaps the most important tissues to be described. Pachymeningitis hæmorrhagica has been frequently found. Vascular changes in the brain, like those of acquired syphilis, have been observed, though occurring more rarely in the congenital form. Encephalitis and atrophy of individual areas are recorded in numerous autopsies. Kahler and Pick have described circumscribed endarteritis in a five-months-old child. Zappert found meningitis of the cervical cord with degeneration of the anterior roots.

As regards the kidneys, gummata have seldom been observed. Diffuse interstitial inflammation may be regarded as a genuine complication of congenital syphilis. Heller, who examined thirteen congenitally syphilitic new-born babies, found that the kidneys were always involved. He found a diffuse interstitial nephritis, arteritis obliterans, and glomerular nephritis, with hyperplasia or atrophy of the epithelium. These findings have been corroborated by many other investigators. Hecker found that the kidneys were more frequently the seat of inflammatory changes than the liver.

The testicle is frequently involved in congenital syphilis. Two forms occur—the gummatous variety, occurring particularly in older children, and the diffuse, interstitial form, which is the more frequent. Certain cases of infantilism and mal-development of the organ are probably due to syphilitic orchitis.

Enlargement of the spleen has been regarded as fairly constant, but some of the later observers have found that the spleen is not so frequently enlarged as was commonly believed. For instance, Mueller believes that the spleen is enlarged in only half the cases. Microscopically, the most frequent change is a small-cell infiltration of the medium-sized vessels, arteries as well as veins. These findings are most pronounced in still-born children. Gummata are very rarely found in the spleen.

The thymus plays a more important part in congenital syphilis than in acquired. Fibrous induration of this organ has been frequently reported, and gummata have been rarely described. A peculiar manifestation in the thymus occurs, which is supposed to be characteristic of congenital syphilis. This consists of the formation of small multiple abscesses which contain a purulent secretion. They are probably of intra-uterine origin and have been supposed to be broken-down gummata. Chiari thinks that in many cases these so-called abscesses are cysts, and that they show no changes characteristic of syphilis. The fact, however, that these so-called abscesses are found in undoubtedly syphilitic children leads to the belief that they depend in some way on a syphilitic degeneration.

S. E. D.

EXPERIMENTAL INVESTIGATION OF THE ACTION OF RADIUM ON THE TISSUES OF THE SKIN. GUYOT. (*Archiv f. Derm. u. Syph.*, vol. xcvii, p. 211.)

THIS is a long paper of fifty pages, with plates, showing the action of radium on the skin of mice, with the histological results. It includes a certain amount of bibliography and summary of conclusions reached by other investigators. The paper tends to show that there is a well-marked division in weak and strong radiation in the changes in the various layers of the skin. The plates should be studied by those interested in radium investigations.

J. L. B.

A CASE OF ACANTHOSIS NIGRICANS. B. Béron. (*Monats f. prakt. Derm.*, July 1st, 1909, p. 2.)

The patient was an agricultural labourer from Macedonia, aged 20 years. The skin-affection began five years before he came under Béron's observation at the Alexandra Hospital at Warsaw, on the neck, the skin of which became darkly pigmented and covered with small warts. Later a similar condition appeared in the axilla and on the abdomen, and papillary growths developed in the mouth. During this time the patient's general health was excellent, and the only subjective symptom he complained of was slight itching. The free borders of the eyelids were also affected, and showed dark pigmentation and warty growths. The disease was most pronounced on the back of the neck, where there was a mass of papillomatous tissue irregularly broken up by deep furrows. Other situations where the eruption occurred were around the anus, nipples, and umbilicus, and the skin of the genitalia was darkened and shagreen-like. Slighter changes in the texture of the skin with a few warts and more or less pigmentation were detected on the backs of the hands and feet, and about the elbows and knees. The mucosa of the inside of the lips and the hard and soft palate presented numerous papillary excrescences. A histological examination showed the changes which have been frequently described in association with this disease, namely, marked proliferation of the prickle-cell layer of the epidermis, elongation of the papillæ, and increase of pigment in the cells of the basal layer, and to a less extent of the cutis.

J. M. H. M.

A CASE OF IMPETIGO HERPETIFORMIS. G. A. Gavazzeni. (*Monats. f. prakt. Derm.*, July 1st, 1909, p. 8.)

The case on which this paper is based was that of a housemaid, aged 33 years, who came to the hospital at Bergamo on February 23rd, 1909, suffering from a widely distributed herpetiform eruption. The patient was delicate and neurotic, and had evidences of bronchitis. The skin of the trunk, face, upper arms and legs was affected. "The eruption consisted of erythematous, slightly raised, irregular plaques varying in size from a threepenny-piece to that of the palm of the hand," on which were groups of miliary pustules. When the pustules dried a crust formed. In many instances the plaques showed a tendency to clear up in the centre so as to form circinate lesions. The eruption was associated with severe itching. On admission the patient was suffering from severe diarrhœa and bronchitis, to which she succumbed on March 14th. During her stay in the hospital new groups of eruption kept coming out. A bacteriological examination was made before and after death but revealed nothing of importance.

J. M. H. M.

[This case, which is described in detail, suggests, like most of the American cases of the so-called Impetigo herpetiformis of Hebra, a case of Dermatitis herpetiformis associated with fatal bronchitis.]

A CONTRIBUTION TO THE KNOWLEDGE OF THE PATHOGENESIS OF KELOID Franz Krzysztalowicz. (*Monats. f. prakt. Derm.*, November 1st, 1909, p. 381.)

In dermatological nomenclature two different forms of keloid are described, namely, spontaneous or true keloid, and false or scar keloid. The majority of writers clearly distinguish these two varieties, considering that there exist certain fundamental differences between them. From a study of the clinical appearances and histological characteristics of both forms of keloid, the writer of this paper comes to the conclusion that any hard and fast distinction between them is not tenable. In proof of this contention he instances a case which occurred in the Krakau dermatological clinic in a man, aged 35 years, who had had for eight years a few furuncles on the back and the lower extremities, in association with which were a number of small keloids, which had been secondary to acne lesions. On microscopical examination the sections showed the characteristic architecture of keloid, and presented a dense fibrous stroma, with here and there deposits of connective-tissue cells, with a few plasma-cells and mast-cells situated in the neighbourhood of a vessel. On account of this cellular infiltration the writer concluded that the keloidal tissue was the result of an inflammatory process about the vessels. He considers that every case of keloid results from a chronic inflammatory process, and that a chronic inflammation around the follicle and sebaceous gland is the commonest, if not the only cause, of the so-called spontaneous or true keloid.

J. M. H. M.

A CASE OF CUTIS VERTICIS GYRATA. S. L. Bogrow. (*Monats. f. prakt. Derm.*, January 1st, 1910, p. 16.)

Since Jadassohn first described this peculiar vertical folding of the posterior part of the scalp a number of cases have been reported. Various explanations have been put forward to account for the peculiar condition. Veress, from the consideration of eight cases, concluded that it was either a congenital peculiarity which developed in later life, or the result of a chronic inflammatory process. Audry described a case in a man, aged 30 years, under the heading of "Pachydermie occipitale verticellée," which followed eczema of the scalp in childhood. Pospelow regards it as an embryonic anomaly which appears in later life from some pathological influence such as eczema or syphilis. The case which forms the basis of this communication occurred at Moscow in a man, aged 30 years. As a child his scalp had been healthy, and there were no traces of folds on it. Two years before he came under the writer's observation he had an attack of erysipelas of the scalp. This was succeeded by an almost complete defluvium of the hair, which affected not only the scalp but the beard and pubic region. On the posterior part of the scalp a number of vertical and parallel folds appeared, which were deepened when the scalp was pressed together and eliminated by stretching it. The writer regarded the affection as a congenital peculiarity.

J. M. H. M.

THE BRITISH
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OBSERVATIONS ON A NEW SPECIES OF EPIDERMOPHYTON FOUND IN TINEA CRURIS.

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In 1905 I separated dhobie itch from the ordinary forms of T. corporis, and MacLeod employed for the affection the term "Tinea cruris." I stated at the time that the eruption was caused by different species of fungi, the commonest of which I called a few months later "Trichophyton cruris." Pernet found and described fungus in a case of T. cruris, which I later named "Tr. perneti." In 1907 Sabouraud made an investigation into an epidemic of T. cruris occurring in a French city, and he also came to the conclusion that T. cruris, or, as he prefers to call it, T. inguinalis, should be separated from T. corporis. For the trichophyton-like organisms observed in the disease he created a new genus—epidermophyton. The principal characters of this genus are that the fungi do not attack the hair-follicles, do not produce suppuration, and their cultures show very quickly forms of degeneration. Sabourand isolated only one species in all his cases; but in the tropics, in my experience, there cannot be any doubt on the plurality of species of the fungi producing dhobie itch. The fungi described so far were:

(1) Epid. cruris (Castellani, 1905).

Syn.: Epid. inguinale (Sabouraud, 1907); Trich. cruris (Cast., 1905); Tr. Castellanii (Brooks, 1908). Colonies in maltose agar whitish, occasionally orbicular; later on showing a greenish colour.

(2) Epid. Perneti (Castellani, 1907). Syn.: Trich. Perneti (Cast.). Colonies in maltose agar of a delicate pinkish colour. The pinkish colour is lost in subcultures.

To these two species I am now in position to add a third one, which I have isolated from two cases of the so-called eczematoid type of T. cruris.

Maltose.—In maltose agar (2 per cent.), alkaline or acid, the colonies are whitish; in maltose agar (4 per cent.) the colonies may occasionally be red.

Ordinary agar.—The fungus grows well; white colonies with central knob; later on the colonies show a peripheral greenish ring encircled by a thin whitish or whitish-greenish zone.

Saccharose agar.—One sees a central white knob surrounded by a yellowish ring and then a whitish zone at the periphery.

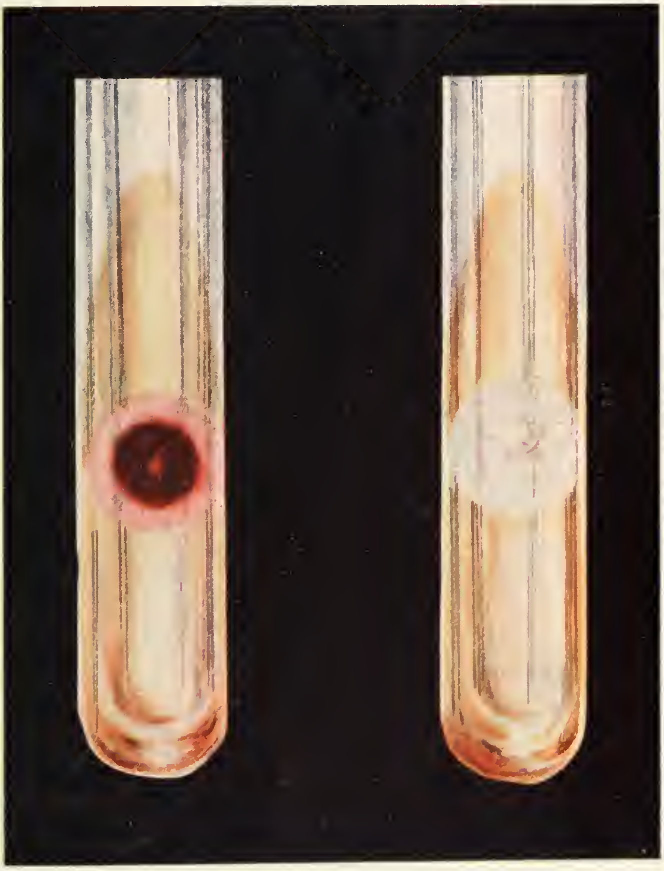
Glycerine agar.—White growth with central white knob and white, powdery surface.

Observations on subcultures.—Subcultures from a Sabouraud agar or glucose agar culture on Sabouraud media or glucose media will be deep red, as the original cultures, but subcultures on agar, saccharine agar, and saccharose agar will be white or greenish or yellowish. Subcultures from an agar culture (white) on ordinary agar, saccharine and saccharose will be white, but if Sabouraud agar tubes or glucose or mannite tubes be inoculated from a white agar colony the fungus will grow, not white, but deep red. The colour of the fungus is therefore due to the composition of the medium on which it is inoculated. In Sabouraud and mannite, and best of all in glucose media, the fungus so far grows red. I have at the present time the nineteenth generation, and the fungus has the same characteristics as in the first.

Hanging-drop cultures.—Hanging-drop cultures in Sabouraud, maltose or ordinary broth present the characters of the other epidermophytons. Reproduction takes place by sprouting and branching of the mycelial tubes; chlamydospores are present. It is interesting to note the rarity of lateral conidia.

Conclusions.—(1) T. cruris, or dhobie itch, is caused by several species of epidermophytons.

In one patient the eruption was localised to the groins, scrotum, and thighs; in the other, besides the scrotum and thighs being



EPIDERMIDOPHYTON RUBRUM (CASTELLANI) OF TINEA CRURIS.

affected, the arm-pits and portions of the chest and abdomen were attacked. I may here remark that it is an error to consider T. cruris as always localised to the groins or the arm-pits. The affection generally begins in those regions, but in many cases it may spread to any other part of the body, except the scalp ; indeed, I have seen a few cases in which the disease started on the chest or arms or face and then spread to the groin and arm-pits, where it persists a much longer time.

Description of the fungus.—In preparations of liq. potass. from the affected parts mycelial tubes and free spores are observed, identical to what one sees in Epid. cruris and Epid. Perneti and similar to any trichophyton of the megalosporon type. The spores are large, globular, 4 to 6 μ in diameter, with a double contour. The mycelial tubes, 2 to $3\frac{1}{2}$ μ in breadth, are straight or bent or variously shaped.

Cultures : Sabouraud's agar.—The growth begins to appear four to six days after inoculation as a raised red spot, which gradually enlarges. The full-grown colonies are of a deep red colour, either with a central knob or crateriform, and are partly covered, especially the central knob, by a white *duvet.* In old cultures the white *duvet* is larger and thicker and covers the whole growth, and may hide the red pigmentation almost completely. The pigmentation has not been lost in subcultures so far (nineteenth subculture).

Glucose agar.—The cultures are of a very deep blood-red colour, and a portion of the medium takes the same colour. In old cultures a large amount of white *duvet* is present all over the surface of the growth, but scraping this out the red pigmentation is extremely well marked. The red pigmentation at the time of writing is still characteristic (nineteenth transplanted subculture).

Mannite.—The colonies are deep red, covered with white *duvet*, with central knob. After a time the whole surface of the growth shows abundant whitish fluff.

(2) To the two epidermophytons already known, Epidermophyton cruris (Cast.) and Ep. Perneti (Cast.), the one I have above described, may be added. For this species I propose the name of Epid. rubrum.

(3) Epidermophyton rubrum is characterised principally by the deep red pigmentation of its growth in glucose, Sabouraud, and mannite agars, while its growth is white in ordinary agar. The pigmen-

tation is remarkably persistent, as it is still quite characteristic at the time of writing when the fungus has already been subcultured nineteen times.

THE VALUE OF WASSERMANN'S REACTION.

By J. E. R. McDONAGH, F.R.C.S.

For the past four years enough has been written about the theory and technique of Wassermann's reaction to enlighten all. Now the time has come when one may rightly ask, what does a positive and negative reaction mean. In a sentence, this cannot be answered, because the interpretation of the result depends upon each individual case.

As in every test, a negative reaction is not conclusive evidence that the patient is not suffering from the particular disease in question—a negative Widal does not invariably mean the disease is not typhoid; the same can be said of a negative Wassermann. But in both diseases there are occasions when a negative result proves of great value. As a positive Widal proves the presence of typhoid, so does a positive Wassermann, syphilis.

Is this proof positive? Is there no exception? For all practical purposes the answer is Yes, since, although leprosy and trypanosomiasis react like syphilis, their presence in our country is so rare that their existence is never considered in differential diagnosis.

Sporadic cases have been described where a positive Wassermann has been obtained in diseases other than syphilis. One must always bear in mind how difficult it is to exclude syphilis, say of some ten, fifteen, or twenty years' standing, history being a slender reed to lean upon. For instance:

Case 1.—A man was admitted into hospital for pains in stomach and vomiting. Diagnosis, malignant disease. Wassermann positive; no history or sign of syphilis. Operation was advised, but patient refused. About a year later patient came up to hospital complaining of pains in his legs. Again the reaction was positive. He was found to have Argyll-Robertson pupils, and was a case of tabes.

From a series of 5000 cases which I reported in the *Practitioner*, September, 1909, not a single positive result was obtained in a case other than syphilitic. Unfortunately many modifications of the reaction have crept in; therefore a positive result occurring in a non-syphilitic individual should be admitted with reserve. The reaction which Wassermann described is laborious, but nevertheless the most trustworthy. Since the reaction is empirical, all attempts should be made to do away with the empiricism rather than to simplify the technique. Observations are now being carried on to elucidate the cause of the reaction, and probably before the year is out the reaction will be proved to depend upon some chemico-physical force. Should such be the case the test may become almost as simple as examining a urine for albumen. The best way of interpreting a positive and negative reaction will be to take them as they occur in the various stages of the disease.

Primary stage.—A positive reaction in the case of a doubtful sore is proof positive of syphilis, and the patient should receive treatment at once. A negative reaction is valueless, since before any secondaries have appeared not more than 40 per cent. of cases react positive.

Secondary stage.—The interpretation of the result will depend upon whether the patient has been treated or not, and how soon after stopping treatment the examination is made.

Taking all cases up till the end of the third year, 85 per cent. are positive.

Cases of secondaries which have not been treated, 97 per cent. are positive.

Why are 3 per cent. negative? Not for the same reason that a negative Widal occurs in the severest forms of typhoid; on the contrary, the severer the syphilis the stronger is the reaction. The fault undoubtedly lies in an imperfect technique. While inactivating the serum it is not improbable that some of the antibody becomes fixed, since if no heat is used and the serum kept for at least forty-eight hours and used active, positive results have been obtained with the same sera which, when inactivated, gave a negative result (see *Practitioner*, September, 1909). The complement in the serum is to blame for this fixation, and this disappears even when sera are kept at 0° C. for forty-eight hours. Similar results have been obtained by precipitating all the complement before use with barium sulphate.

I now always take the precaution to use the serum both active and inactivated, and have never failed to get a positive reaction in such a case.

When no sign is present 80 per cent. are positive. A positive result indicates active virus, therefore calls for treatment.

The remaining 20 per cent. may be negative (*a*) because the syphilitic virus has disappeared or is dormant, and there is no specific antibody in the serum; (*b*) because the patient is taking mercury.

Since no hard and fast rule can at present be laid down as regards treatment as influenced by the reaction, a patient in category (*a*) should receive treatment, if he has not already had it, for three years.

If treatment has been persisted in for this time the patient can be regarded as cured. It cannot be denied that a cutaneous gumma may not appear years later, but it can be safely said that there will never be a severe visceral or a parasyphilitic nervous affection.

Fortunately these severe cases give a positive reaction right through from the beginning to the end, irrespective of how much mercury the patient is taking at the time the serum is examined.

In all ordinary cases the tendency for mercury is to convert a positive into a negative reaction; therefore a patient's serum should not be examined for at least six weeks after taking the last dose and provided that for the first three weeks iodides have been given to hasten its elimination.

The reaction teaches us much concerning treatment. A negative result is produced most quickly when mercurial inunctions are used, less quickly after injections, very slowly after oral administration. One can therefore conclude that the quickest way of eliminating the syphilitic virus is with inunctions.

The future of the disease is dependent upon its early treatment. Cases which have been rigorously treated for the first year with inunctions not infrequently never again give a positive reaction; such occurs very seldom after the use of pills. Therefore the more rigorous the early treatment the more beneficial to the patient. A negative result, then, given three, six, and nine months after treatment is of enormous value. A negative reaction is also invaluable in the following very common type of case.

Case 2.—Patient gives a history of a sore, which appeared a few days after connection and disappeared within about ten days. No thought is taken at the time until some months later a few spots appear on the trunk. A medical man is consulted, who, like the majority, rarely look at a skin without thinking of syphilis; aided by the history of a sore, the nature of which is rarely inquired into, the diagnosis is confirmed.

To make quite certain a little mercury is tried; the spots may vanish, and the patient is labelled as syphilitic. The laity are sufficiently well educated nowadays to know what mercury implies. At the time, perhaps, the patient does not bother; a few years later he wants to marry, and becomes anxious.

A negative result in such a case can certainly set the patient's mind at ease.

Case 3.—A. R—, aged 23 years, early in May, 1909, had gonorrhœa in July, 1909, patient had gonorrhœal rheumatism and swelling of glands in neck. Because of an induration felt in the course of the urethra on the under-surface of the penis and because the discharge continued mercury was given. Patient had never had a rash, sore throat, hair falling out, etc. As patient improved under mercury the diagnosis of syphilis was confirmed.

In December, 1909, the patient had one gland enlarged on the right side of the neck, quite soft and movable and about the size of a walnut. No enlarged glands in groin, which one would have expected if above induration had been a chancre. Nothing else abnormal found. Wassermann negative. In this case the induration was most probably a bubonulus—a gonorrhœal abscess formed in one of Littré's lacunæ, the tendency of which is to spontaneously heal. A negative reaction justifies saying the patient has not had syphilis.

Case 4.—S. T—, male, aged 25 years. Gonorrhœa 1906, with ulcers. Ulcers in urethral orifice, said to have been due to gonorrhœa. No history of syphilis obtainable.

November, 1909: Examination revealed chronic prostatitis, commencing arterio-sclerosis, hypertrophied heart, apex-beat just outside nipple line, accentuation of aortic second sound, albuminuria and polyuria. Wassermann strongly positive. Polyuria and albuminuria quickly disappeared under mercury.

This case shows the value of Wassermann's reaction when syphilis was never expected.

Tertiary syphilis.—Taking all patients in the tertiary stage 70 per cent. give a positive result. Many have no symptoms and give a negative result. Such cases can be looked upon as cured. Others have no symptoms, but yet give a positive result. In such cases always suspect some visceral lesion, viz. internal gummata, arteriosclerosis, aortic disease, nervous manifestations, etc.

A positive result calls for treatment, except in cases of general paralysis of the insane and tabes, which fare badly under the influence of mercury.

One hundred per cent. of cases of general paralysis of the insane give a positive result, and 60 per cent. of cases of tabes; it is probable that by no means every case of tabes is of syphilitic origin.

As an aid to diagnosis Wassermann's reaction is invaluable.

(1) Differential diagnosis between varicose ulcer and gumma may be difficult, and since such ulcers usually occur in women, history throws little light upon the case.

(2) Diagnosis between gummata of the testes, tubercle, and new growth.

(3) Diagnosis between periostitis and sarcoma. Many a limb has been amputated for malignant disease, when a syphilitic periostitis was the cause of the swelling.

(4) Diagnosis between gumma of liver and malignant growth.

(5) Diagnosis between syphilitic disease, tubercle, and carcinoma of rectum.

Because a positive reaction is given, a conclusion must not be hastily drawn that the lesion under question is syphilitic, for it is possible for a man with malignant disease to have had syphilis. Therefore the patient should be examined just as thoroughly, and one should be biased only so far as to push mercurial treatment, hoping for success.

A positive reaction should be looked upon as a bar to marriage.

A woman who has never had any obvious manifestations of syphilis, but who has frequently aborted, giving a positive reaction, must be regarded as syphilitic and be rigorously treated during the whole time of each pregnancy.

Case 5.—M. P—, aged 34 years, had aborted four times; there was no history or sign of syphilis. Wassermann's reaction positive. Mercurial treatment started at once and persisted in until the end of her fifth pregnancy, when she bore a healthy child, whose serum five days after birth gave a negative reaction.

In all such cases the child's blood should be tested as soon as possible after birth. If the reaction is positive it should receive treatment; if negative it can be considered free of any hereditary taint. A positive reaction can be obtained in a congenital syphilitic the day of birth. A congenital syphilitic is peculiar in that mercury has very little influence in converting a positive into a negative reaction. The importance of diagnosing a congenital syphilitic who has never shown symptoms is great, seeing that it is possible for the next generation to inherit the disease. Syphilis in the third generation is probably more common than previously considered, which is not at all unlikely when we were dependent on history only.

Case 6 (see *Münch. med. Woch.*, No. 47, p. 2451).—A child, aged 4 months, had a typical syphilitic rash. Wassermann's reaction positive. The mother gave no history and showed no signs of syphilis. She had given birth to four children, who either were born dead or died soon after. Father was quite healthy and had never had a venereal disease. The mother gave a positive Wassermann, and the father negative. The grandmother on the mother's side had been infected two years before her marriage; her first nine pregnancies ended disastrously; two later children survived, the last being the mother of the syphilitic child.

Congenital syphilitics may show no sign of the disease till they have reached or passed puberty. It is not improbable that Case 4 is such a case.

Another question which frequently gives rise to discussion is, Ought one to state the reaction is positive if the hæmolysis is not complete—in other words, there are grades of positiveness—and ought the only just positive reactions to be regarded as positive?

I am always guided by the controls and what has taken place with the other sera. Never less than ten sera should be examined at a time, and amongst them there should be a normal serum and a serum of a syphilitic which has before given a strong positive reaction.

If the controls have completely hæmolysed and also the known normal serum in a given space of time, an incomplete hæmolysis in a given serum I regard as positive.

To sum up.—A positive reaction should be looked upon as indicating active disease which calls for treatment.

A negative result early in the disease, *i.e.* in the primary stage, is valueless.

In the secondary stage when the patient has had no treatment a negative reaction excludes syphilis.

In questionable cases, provided the patient has had little or no treatment, aided by the history a negative reaction is of great use.

A negative reaction is invaluable in late stages of the disease after the patient has received adequate treatment.

Mercury is the only drug which has an influence in converting a positive into a negative reaction. Potassium iodide has not the power, therefore cannot be regarded as a specific for syphilis, as is so commonly held.

THE FUNCTIONS OF THE SKIN.

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Lecture I.

The Functions of the Skin have been selected as the subject of a course of eight lectures under the scheme for special lectures in Physiology in the University of London. There are two reasons for the selection. The cutaneous system is a much more important physiological subject than one would suspect from the attention given to it in the ordinary text-books of physiology, and its condition is one of the greatest aids to the physician in the recognition of disease, and in the estimation of its severity.

The skin is the most extensive sensory area of the body, and can influence profoundly the general nervous system and the exchange of material; it is constantly in action as a receiver of sensory impressions and as a glandular and vascular organ. It responds to changes in its environment and to internal conditions of the body by alterations in its colour, temperature and moisture. Even the outer layer of the skin, which is often described as a degenerate dead tissue, possesses a function of the greatest importance; the chemical changes which it undergoes produce not only a protective horny material, but also a fatty substance which preserves to the skin an adequate supply of moisture, and at the same time protects it from becoming sodden by any excess.

Many of these facts are common knowledge, but it is necessary to discuss them in relation to the structure of the skin. In the first place, therefore, it will be well to consider the general structure of the skin and its appendages, but to avoid a detailed account such as may be obtained from text-books of histology.

The skin consists of two parts well differentiated by structure and origin. The external layer, or epidermis, is composed of layers of cells, and is devoid of blood-vessels; it is developed from the ectoderm. The internal layer, *cutis vera* or *corium,* consists essentially of fibrous tissue, and is richly supplied with blood-vessels and nerves; it is developed from the mesoderm. The cutaneous glands and appendages belong to the epidermis, notwithstanding the fact that they may extend to the lowest layers of the dermis; they are developed from downgrowths of the ectoderm.

Simple inspection of the palm of the hand and the sole of the foot will show definite ridges which are not present in other parts of the skin. These ridges form definite patterns which differ so greatly in individual cases that the impressions of the fingers have been used frequently in the identification of criminals. The physiological interest of these ridges is associated with the tactile sensibility which is so important in the hands and feet. The outer layer of the corium is beset with papillæ, some of which contain vascular loops, others the endings of nerves in tactile corpuscles. The papillæ vary in number and size in different parts of the body; the largest and most numerous are found in the palm of the hand and the sole of the foot.

The other structures to which attention may be drawn are: involuntary muscle in the scrotum, nipples, and the *arrectores pilorum,* and striated muscle in the face in association with the muscles of expression. Adipose tissue is found in the meshes of the connective tissue of the inner layer of the corium, and may be so abundant as to form a well-marked layer, the *panniculus adiposus;* it is, however, entirely absent from the papillary layer of the corium.

The vascularity of the skin is associated not only with its nutrition, but with the regulation of the temperature of the body. In those parts of the skin which possess papillæ there are capillary loops passing into the elevations, but in other parts there is a well-developed network of capillaries. The adipose tissue is abundantly supplied with capillaries, and this is significant in the relation to the deposition of fat and its removal during times of deficiency.

The nerves are exceedingly numerous in that part of the corium which adjoins the epidermis; in fact, this is one of the parts of the body most richly supplied with nerves. The deeper layers of the corium, however, are relatively poorly supplied with nerves. The structure of the various nerve-endings will be considered later when the functions of the skin as a sensory organ are discussed.

Attention may now be directed to several points of interest in the structure of the epidermis. Three layers are recognised, the outer horny layer, or *stratum corneum*, the middle or Malpighian layer, and the basal layer or *stratum germinativum*. In the last layer numerous cells can be found in the process of division, and afford evidence that the outer layers are developed therefrom. The transition between the upper two layers is accompanied by a physical and chemical transformation, the cells gradually become flattened, and acquire a peculiar granular content; the granules are composed of keratohyalin and eleidin, which were considered by the older observers to be the antecedents of the horny material, or keratin, of the outer cells. These chemical changes are accompanied by the production of a waxy or fatty material.

Recent investigations upon the processes whereby the soft protoplasm of the cells becomes horny or keratinised have thrown doubt upon the old theories. Three views have been held: one that the whole cell is transformed into keratin, another that only the spongioplasm is converted into keratin, and a third that the intercellular substance gives rise to the horny material. The process of cornification is not inseparably bound up with the previous appearance of keratohyalin and eleidin granules, and there is evidence that the two processes are distinct; the keratin appears to be produced from the fibrillar substance of the cells, and the keratohyalin and eleidin granules probably undergo a further change and form the peculiar waxy or fatty material which will be considered later in relation to the secretions and excretions of the skin. Keratin is a very resistant material; it is not destroyed by strong mineral acids and is indigestible in pepsin and hydrochloric acid. Chemical analysis shows that a third of its ash is composed of silicates, and these no doubt give it resisting properties. In its elementary composition it does not differ greatly from the true proteins, but it contains a higher percentage of sulphur.

In those parts of the skin which are subject to pressure, such as the sole of the foot and the palm of the hand, the layers of cells undergoing the transformation into horny material are so well developed that the epidermis may be subdivided into *rete mucosum*, *stratum granulosum*, *stratum lucidum*, and *stratum corneum*. There is the closest association between structure and function, and it is well known that in response to a constantly renewed pressure the hands or feet become hardened. These changes may be so localised as to afford evidence of the nature of the manual labour performed by a man. This protective mechanism requires time for its development, for it is well known that pressure frequently repeated upon an unhardened portion of the skin will produce increased vascularity, pain, and an exudation of fluid; the outer layers are raised and a blister is produced.

The cells of the horny layer are dead, but serve most important protective purposes. It will be necessary to draw repeated attention to the peculiar condition of the horny layer of the skin, whereby it resists the penetration of water and other liquids, but at the same time conserves an adequate amount of moisture. This protective mechanism is not due entirely to the sebaceous and sweat glands but to the chemical transformations in the epidermis which have been mentioned.

The colour of the skin varies greatly in the different races of mankind: in the white races there is considerable pigmentation in the skin of the axilla and genitals and around the anus; pigment is also developed in the areola around the nipple, and during pregnancy this may be so marked as to form a secondary sign of pregnancy. The pigment, whether it be present in large or small amounts, is chiefly in the lower strata of the Malpighian layer. This is the case in all races, but other pigment cells are found in the layers of the cutis of the negro; in such cases the pigment cells send out processes between the lowest cells of the epidermis. Upon this latter point interesting results have been obtained by observations upon the condition of grafts taken from white men and transplanted in negroes.

In those cases in which the grafted skin grew, a dark colour was gradually acquired, and between the deeper cells of the Malpighian layer of the epidermis were found pigment cells with numerous processes. In time the transplanted white skin resembles in appearance the surrounding black skin. On the other hand, a piece of black skin transplanted to a white skin loses its pigment in time. These observations support the view that the epithelium does not directly form the pigment, but takes it from connective tissue cells or from wandering cells. Evidence will be produced later to show that the pigment is not altered colouring matter of the blood, as is so commonly believed, but a metabolic product. Further support for this view is obtained from the comparative study of the structure of the skin; in the higher apes numerous pigment cells are found in the dermis, and they send processes between the cells of the Malpighian layer of the skin.

In albinoes there is an absence of pigment from the skin, hairs, and other parts of the body which are pigmented in normal individuals, but the hæmoglobin, the pigment of the blood, is present, and shows no variation from the normal quality or quantity. Albinoes are found among all races of mankind, and in many classes of mammals and birds. On exposure to the sun albinoes do not become sunburnt, although the skin may be reddened by the dilatation of the cutaneous blood-vessels; the chemical changes in the tissues of the albinoes are in some particulars eccentric. Pigmentation appears to be due to the interaction of a colourless mother substance, or chromogen, and a ferment. When an extract of the skin of normal young mice is incubated with tyrosin and a little ferrous sulphate to act as an activator, a pigment is produced; thus evidence is obtained of the presence in the skin of a special ferment, tyrosinase, which can act upon tyrosin, one of the products of the digestion of protein. The skin of albino mice treated in a similar manner yielded negative results. Albino rats appear to possess the chromogen in their skin, but no ferment, for if the skins of such rats be treated with a mixture of equal parts of 10 per cent. formalin and 70 per cent. alcohol they become yellow. In some cases these skins turn brown after they have been washed in water and treated with hydrogen peroxide.

(*To be continued.*)

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, April 21st, 1910, at 11, Chandos Street, Sir MALCOLM MORRIS, Vice-President, in the Chair.

Dr. ADAMSON showed (1) a case of *Elephantiasis associated with tertiary syphilis.* The patient was a woman, S. W—, aged 36 years She had been pregnant at eighteen years of age, the child having been "born dead." Swelling of the legs had begun four or five years later, first of the right, then of the left leg. Both legs were now enormously enlarged from just above the knees down to, and including, the feet. Pitting was only obtained on very firm pressure. There was no warty growth as sometimes occurred in cases of elephantiasis. There were now present on the legs flat papular, crusting and ulcerating lesions, with circinate grouping, and many old scars of former lesions. A positive Wassermann reaction had been obtained by Mr. McDonagh.

The case was shown with the view of eliciting an opinion as to the nature of the association of the elephantiasis with syphilis. This association was well known, and was mentioned in books, but not much attention was given to it. The exhibitor recalled a paper by Dr. Arthur Francis, of Hull, in the *British Journal of Dermatology*, in 1894, p. 225, entitled, "Cases of Elephantiasis associated with Tertiary

Syphilis." In this paper were recorded seven cases of elephantiasis of the lower extremities associated with syphilis. Elephantiasis of the upper lip (Leontiasis syphilitica) and of the genitals was a recognised form which was generally regarded as due to a syphilitic lymphangitis, and which disappeared under mercury treatment. The question now raised was as to whether elephantiasis of the lower limbs in syphilitic subjects was of the same nature and due to a diffuse syphilitic lymphangitis, or whether it might not be the result of a streptococcic infection, such as Achalme, Sabouraud, and others, had shown to be the case in many instances of elephantiasis associated with non-syphilitic ulcerations of the leg. In elephantiasis associated with ulcers of the leg there was always a history of repeated attacks of local inflammatory swelling, with more or less general febrile disturbance—"elephantoid fever";—and it was during these attacks that the streptococcus was found in serum from the tissues. All Dr. Francis's cases of syphilitic elephantiasis had had these attacks of "elephantoid fever," and so had the patient now exhibited. This patient had not, however, been seen during a febrile attack, so that there had been no opportunity of making cultural examinations. Similar attacks of "elephantoid fever" occurred, of course, in filarial elephantiasis, and it had been suggested that these also were due to secondary microbic infection—probably streptococcic. The question was of practical importance in regard to the results that might be expected from treatment. Diminution of the swelling might be hoped for from mercurial treatment if the elephantiasis were strictly of syphilitic origin, but not if it were due to streptococcic infection. Mr. McDonagh had made a biopsy in this case, and microscopical examination showed a dense feltwork of fibrous tissue, made up of very fine fibrils, with abundant connective-tissue cells, numerous plasma-cells, and many pigment cells scattered among the fibrous bundles. There were also collections of round-cells and plasma-cells around the blood-vessels, and here and there dilated lymphatics. Sweat glands were present, but no sebaceous glands or hair-follicles were seen in the section. The large number of plasma-cells did not necessarily suggest a local reaction of syphilitic origin, because this was also seen in elephantiasis unassociated with syphilis.

Dr. MacLeod said that it seemed to him to be a matter of dispute that the elephantoid condition was directly due to the action of the spirochæte of syphilis, and thought it more probable that the elephantiasis was an epi-phenomenon probably due to the action of a streptococcus in a tissue the vitality of which was lowered by the disease, and that it had much the same pathogenesis as the elephantoid thickenings which occasionally occurred in association with tuberculosis.

Dr. Pringle said that many examples of the condition exhibited were in the Saint Louis Museum, labelled syphilitic lymphangitis, although he was unaware of the anatomical findings which justified the title. He had under his care at the present time an identical case to Dr. Adamson's, but in which one *arm* only was affected, which he thought was a very rare state of affairs. It was certainly not necessary for a visible surface lesion to be present, and he thought that recurrent streptococcal infections could not adequately account for all the features of the condition, which is by no means rare.

(2) A case of *Keratosis palmaris et plantaris associated with generalised ichthyosis.*

The patient was a girl, N. S—, aged 13 years. The condition had been present since birth. There was a very marked horny thickening of the skin of the palms, but not of the whole palm, for on each hand there were two broad patches of quite normal skin. The margin of the horny area where it abutted on to the patches of normal skin was bordered by a narrow erythematous zone. On the soles the thickening was confined to the points of pressure, *i.e.* to the heels and the anterior part of the soles. There was a hyperkeratosis of the beds of the nails, lifting up the nails at their anterior halves. The whole body and the limbs were markedly red and the skin thickened, without, however, showing any marked scaling as in ordinary ichthyosis, but everywhere an exaggeration of the normal markings of the skin. Another point of difference from the common form of ichthyosis was that the flexures were affected. The anterior part of the neck, the axillæ and the bends of the elbows were especially the seat of closely set papilliform elevations, which again appeared to be formed by an exaggeration of the normal furrows and ridges of the skin. The patient was well nourished, a feature which was also unlike ordinary ichthyosis.

The only other member of the family who was known to be affected was a younger brother, who presented on each palm a horny streak which suggested a linear nævus.

Since the case was shown Dr. Graham Little had reminded the exhibitor that Brocq had, in 1902, described a similar case under the name of "Érythrodermie congénitale ichthyosiforme avec hyper-épidermotrophie," and from the account of these cases in Brocq's handbook—*Dermatologie Pratique,* vol. ii, p. 703—it seems certain that the case belongs to that type.

Mr. G. W. Dawson showed a case of *myxœdema* in a woman, aged 41 years. When first seen on April 11th she walked with unsteady gait, her speech was slow and deliberate, her face was puffy, particularly under the eyes, her hands were enlarged and massive, in addition to which she had an eczematous eruption on different parts of the body. Her illness began three years ago. She was given thyroid extract 1½ gr. three times daily. In four days the unsteady gait and the slowness of speech had almost entirely disappeared. The case illustrated the remarkable and rapid effects of thyroid extract in that and kindred affections.

Dr. Dore showed (1) a case of *Monilithrix* in a boy, aged 3 years and 9 months. The child was the only one of five affected, the remaining four having been seen at the Evelina Hospital. The parents, and as far as was known, their antecedents, were also healthy and free from any disease of the skin or hair. The patient was a fair-complexioned child, born prematurely at eight months, his mother having had a fall when she was seven months pregnant. He had never been very strong and had suffered from rickets, and also from an attack of scarlet fever eighteen months ago. He had a little hair at birth, but this "rubbed off a month or two afterwards." At the age of nine months his mother noticed a rash, consisting of itching red pimples, on the back and sides of his head. This condition did not alter, and the scalp remained bald until two years ago, when hair began to grow on the top of his head, but did not grow properly on the areas affected by the eruption until two months ago. The hair on his eyebrows was normal. On his back and on the extensor surfaces of the limbs the follicles were slightly prominent, and he was subject to occasional itching in these parts. The temporal, inferior parietal, and occipital regions of the scalp were scantily covered with short, stumpy hairs, producing a semi-bald appearance at first sight suggestive of ringworm. On close inspection the hair-follicles in these areas were seen to be reddened and prominent, producing the feeling of a nutmeg-grater to the touch. The hairs varied in length, some being simply atrophic and shorter than normal, but for the most part they were bent and twisted, only projecting a few millimetres above the follicle, and presented a beaded appearance just visible to the naked eye. Under the microscope they showed a more or less regular succession of constrictions alternating with fusiform swellings, the latter varying from about three times to twice the diameter of the former. The constrictions were lighter in colour apparently owing to absence rather than to increase of pigment of the "nodes," and the cuticle was thickened at the "internodes," which often showed partial fracture. Many of the hairs terminated in a brush-like extremity, like those of Alopecia areata, and showed an atrophied root in the less affected hairs which did not break on extraction. Staining gave negative results as regards the presence of micro-organisms, and cultures on agar were either sterile or showed a few staphylococci.

The chief points of interest about the case were that there was no history of heredity and no other members of the family were affected, that the patient was a premature child, and that the affected areas were also the site of keratosis of the follicles which had preceded the monilithrix by three years.

These facts seemed to point to the keratosis, possibly affecting Huxley's layer of the inner root sheath, as shown in Beatty and Scott's case, as the cause of the moniliform condition of the hairs, itself being possibly due to an error of development consequent upon the premature birth of the child.

(2) A case of *linear nævus* of unusual character in a boy, aged 18 years. The patient was first seen at the Polyclinic, where he was taken by Dr. Paramore, who kindly agreed to the suggestion that he should be shown at the meeting of the Dermatological Section.

On the inner aspect of the right thigh there was a series of linear lesions of varying length arranged in parallel lines and extending from Poupart's ligament above to the junction of the middle and upper thirds of the thigh below.

They consisted of raised papules or nodules of a violaceous colour, some rounded, others flat and arranged like strings of beads, suggesting the diagnosis of lichen moniliformis (Kaposi). The presence of flat-topped shiny papules in or interspersed between the streaks, and of white atrophic patches extending in a linear direction down the inner side of the lower two thirds of the thigh, corresponding to the areas from which the lesions had disappeared, also lent colour to the diagnosis of Lichen planus. On the other hand, the fact that the condition had existed since the age of nine months, and had remained without altering in recent years, and the entire absence of lesions elsewhere, strongly negatived this diagnosis, and the conclusion arrived at was that the case was one of linear nævus.

Dr. GRAHAM LITTLE showed: (1) *a case for diagnosis.* The patient was a clergyman, aged 51 years, who for the past six months had had an eruption on the forehead, for which he had had treatment from his medical man, Dr. Eaton Lascelles, to whom the exhibitor was indebted for permission to show the case. The eruption was confined to the outer third of the right half of the forehead, between the eyebrow and the scalp, and did not affect the hairy scalp. There was a patch about the size of a two-shilling piece with some raised, follicular, warty-looking growths upon a reddened area, flat, but with no signs of atrophy. Near the main patch were other smaller, warty eminences, with follicular plugs which were easily removed by scraping. The affected skin was of a deep reddish-blue; it was not itchy or painful in any way. There were no lesions of mucous membrane. There was some redness with exaggeration of follicles of the neck near the junction of the scalp with the smooth skin.

The exhibitor was of opinion that it was a case of hypertrophic Lichen planus of very unusual distribution. The clinical appearances exactly coincided with the well-known type of *Lichen planus hypertrophicus* described by Brocq under two headings, according as to whether there are or are not present as well typical papules of Lichen planus. In this case there were no such papules, and the patch had some resemblance to *Lupus erythematosus,* except that there was no atrophy. The distribution on the face of this type of Lichen planus had not been previously recorded as far as the exhibitor could find on reference to the fullest description of the disease readily available, that of Brocq in the *Pratique Dermatologique.* There its occurrence is recorded, in certain "rare cases," on the thighs, hips, forearms, sacrum, scrotum, penis; the great majority of instances of this form of lichen being found on the lower limb. The exhibitor had had one case of an isolated patch of *Lichen planus hypertrophicus* on the middle of the thigh, and one in which there were hypertrophic patches (in the course of an eruption of Lichen planus) on the forearms. The diagnosis in the former case had been confirmed by a biopsy.

The diagnosis of Lichen planus hypertrophicus was supported by the majority of members present.

(2) *A second case for diagnosis.* The patient was a little girl aged about 8 years. Nothing unusual had been noted until two months ago, when the mother had observed some thickness and stiffness of the cheek. The patient had been seen by the exhibitor's colleague, Dr. Frederick Langmead, to whom his best thanks were due for his permission to show the case. The child had peculiarly red cheeks, and was well-nourished, and even fat. Over large areas of the body there was evident thickening of the integument, and probably of the subcutaneous tissues, so that the skin, in place of being easily movable over the underlying fascia, was picked up with difficulty, and, indeed, seemed to form one piece with the muscle, which also seemed thickened. The skin was not changed on the surface in any way; there was no shininess, extra smoothness, or atrophy. A large part of the body seemed to be involved, the only actually free areas in which the peculiar doughy thickness of the skin and muscles was not evident being the buttocks, the forearms, the abdomen, chest and back, the hands, and the feet. There was no change in the tactile sense apparently, and not the slightest appearance of the surface-phenomena associated with sclerodermia; no immobility of the joints, shiny skin, depression of the affected areas as compared with the unaffected parts, and no change of coloration.

The exhibitor had hesitated between the diagnosis of an early œdematous stage of sclerodermia of an unusually extensive distribution and localisation and a myositis, the latter diagnosis being suggested by a very extraordinary case which he had seen under Dr. Archibald Garrod in the Great Ormond Street Hospital. On reading the literature, however, and after hearing the opinions expressed at the meeting, he was inclined to regard it as an instance of generalised *sclerodermia.*

Dr. F. PARKES WEBER suggested that the case resembled that described by Dr. F. E. Batten in a boy, aged 6 years (*Trans. Clin. Soc.*, London, 1904, vol. xxxvii, p. 12), under the heading, "Myositis Fibrosa," and possibly was of the same kind as that of a child shown by Dr. Walter Carr at the Medical Society of

London on April 11th, 1910. Dr. F. E. Batten had discussed the literature of the subject.

Mr. J. E. R. McDonagh showed for Dr. P. S. Abraham a case of *Lichen planus in a child.* The patient was a little girl, aged 5 years, who was brought to the West London Hospital on February 11th, 1910, with the history that a fortnight previously "pimples appeared in the middle of the back," which caused considerable irritation.

On examination there were numerous scattered, plane papules, many of which showed the distinctive character and tint of Lichen planus, chiefly aggregated upon the trunk; but several lesions were also seen upon the forearms, being specially grouped together in the ante-cubital spaces. The general health did not appear to have suffered in any way.

At the time of exhibition the condition had lost a good many of its features, as the eruption had materially improved under the administration of small doses of arsenic and weak tar applications.

Mr. J. E. R. McDonagh showed (1) a case of *Dermatitis herpetiformis.* The patient was a boy, aged 17 years, who had come up to the West London Hospital on March 29th, 1910, complaining of a rash more or less covering the body.

The eruption had first made its appearance on January 10th, 1910, and had begun as a raised red ring just below the navel.

The lesion had itched very much, and, according to the patient, as a result of scratching a blister had formed.

Similar lesions had come elsewhere, always accompanied with itching, and subsequently blister formation.

Once the blisters had formed the itching had ceased. Since the patient had been under observation, bullæ had appeared on the glans penis, on the tongue, and on the mucous membrane inside the mouth, on the uvula, and on the soft palate, causing some pain on swallowing.

The patient had never had the complaint before, and there was no family history.

Dermatographismus was marked, a typical wheal appearing on pressure.

The bullæ which had recently appeared had not been preceded by an erythema.

The rash fitted in in every way with the diagnostic signs as formulated by Dühring, viz. polymorphism, pruritis, chronicity, excellent health of the patient, and herpetiform arrangement of the lesions.

The exhibitor is indebted to Dr. Abraham for his kindness in allowing him to show the case.

Sir MALCOLM MORRIS said it was strange how rarely the condition attacked the conjunctiva, although it attacked the mucous membrane of the mouth.

Dr. PRINGLE said that with regard to the ultimate prognosis of such cases, it had been his happy experience that a considerable number of such cases, although by no means all, got permanently well. This accorded with Duhring's original statement. One patient recently under his observation, who had suffered from the disease in its severest form for more than ten years, had completely recovered, although at the expense of well-marked arsenical pigmentation, with palmar and plantar keratosis. Previously to coming under the speaker's observation he had been treated with ten-minim and larger doses of Fowler's solution three times daily, but it was found that six-minim doses were invariably efficacious in arresting the frequently recurrent exacerbations, each of which was accompanied by marked indicanuria.

(2) *Some cases of syphilis, illustrating the importance of the Wassermann reaction.* The exhibitor said that the cases he was about to show brought out very clearly the importance of the Wassermann reaction. The cases themselves did not present any interesting lesions, but they were of extreme importance from an economic point of view. (1) Mrs. A. B—, aged 46 years, came up to St. Bartholomew's Hospital complaining of a rash on her right arm. The rash had appeared about Christmas, 1909, and some short time before she had had some sore places on the right leg. The lesion on the arm was a gumma, and the right leg was covered with the scars of gummatous ulceration. This patient was twenty-one years old when she married, and neither before her marriage nor since, until the date above-mentioned, had she ever experienced the slightest evidence of syphilis. She had had four miscarriages; eleven children were born, two of which were still living—the second and fourth pregnancies. All the other children had died within six months after birth as the result of syphilis. Her last pregnancy had been a miscarriage, immediately after which her leg became bad; this period also corresponded to the change of life. The patient had given a strong positive Wassermann reaction. Her second pregnancy was a son, who had given a negative Wassermann reaction, as had also his

wife and child. The fourth pregnancy, a daughter, had given a negative Wassermann reaction.

Neither child had shown the least taint of the disease. That these children had never been syphilitic was more than probable, since congenital syphilitics tended to give a strong positive reaction, which remained so throughout life.

The point to be brought out in this case, and in several others similar, was the fact that the Wassermann's reaction had shown that Colles' law was incorrect. The patient had undoubtedly been infected through her child *in utero*, because had she been infected directly from her husband she would have had evidences of syphilis, or have given a history of such.

Colles was right in meaning that the woman was immune, but was not under the impression that she was syphilitic or likely to show signs of the disease later.

The exhibitor demonstrated that they do show no signs of the disease until the menopause, when tertiary lesions appear, as often as not severe in nature.

The important feature in the case was that had the patient been recognised as having contracted syphilis, say from her first child, and had she been treated throughout each successive pregnancy, the probabilities were that many of those children who were born syphilitic would have been born healthy. That similar cases were numerous there could be absolutely no doubt. Could not, therefore, something be done in the way of using the Wassermann reaction in women who had aborted to see if they were syphilitic or not?

(2) L. B—, aged 47 years, had come up to the West London Hospital complaining of sores on the calf of the right leg. The sores or ulcers were typical gummata. As in the preceding case the ulcers had appeared just atfer the "change of life." The patient had been pregnant nine times; the children had been mostly premature; some had been born alive, others born dead, but not one had lived for more than three weeks.

Wassermann's reaction had also definitely proved syphilis in the third generation, and of all the cases known it had always been the mother who was the congenital syphilitic parent.

It was all very well to say that only a small percentage of infant mortality was due to syphilis, but in the statistics a miscarriage or a child born dead were not included, and that syphilis was the chief cause of such was undoubted. Therefore, surely more attention should be paid to this question than has hitherto been the case.

Mr. McDonagh summed up his remarks by saying that women infected with syphilis from their child *in utero* showed no signs of the disease until the child-bearing period was over or the menopause had set in, when tertiary manifestations made their appearance. Since it was the rule that such women gave a positive Wassermann reaction, they should throughout each successive pregnancy be treated with mercury.

The exhibitor was indebted both to Dr. Adamson and to Dr. Abraham for their kindness in allowing him to make use of their cases.

Since the meeting of the Section the exhibitor's attention had been called to an article published in the *Ann. de Derm. et de Syph.*, vol. ix, 1898, p. 879, in which Viarnay had drawn attention to the frequency with which women with no antecedents of syphilis were liable to get tertiary manifestations after the child-bearing period.

Dr. PERNET said he did not admit that what Mr. McDonagh had said disproved what had been called Colles's law at all. On the contrary, the employment of the Wassermann reaction had confirmed what Colles had written. Colles himself had merely recorded the fact that he "had never seen or heard of a single instance in which a syphilitic infant (although its mouth be ulcerated) suckled by its own mother had produced ulceration of her breasts . . . " These are Colles's own words.[*] Colles had said nothing about immunity or formulated a law. He had merely recorded the results of his own observation. Dr. Pernet had found on several occasions that writers and others who referred to Colles's law had never taken the trouble to look up Colles's original reference to the point The mother of a congenitally syphilitic infant did not contract syphilis from her child when she suckled it because she herself was syphilitic. Calling this condition "latent syphilis" makes no difference. As to congenitally syphilitic women, they are very liable to repeated abortions. Dr. Pernet had published an observation bearing on this,[†] and Jullien in his monograph[‡] had collected other cases.

Sir MALCOLM MORRIS asked if it were true that a syphilitic mother could bear children who showed no sign of syphilis, what significance was considered to belong to the fact.

Mr. McDONAGH replied that the significance was that such children might yet grow up and produce syphilitic progeny.

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[*] *The Works of Abraham Colles*; New Sydenham Society, 1881, p. 271.

[†] *Brit. Journ. Derm.*, vol. xi, 1899, p. 459.

[‡] *Congrès de Dermatologie,* Paris, 1900, p. 350.

Dr. **Whitfield** said that if the reaction persisted *in every case* throughout life it was against the value of the reaction, as congenital syphilitics were not always immune throughout life. As a matter of fact some of the published statistics seem to show that the Wassermann reaction died out, at any rate in some cases.

Sir **Malcolm Morris** showed *a case for diagnosis.* The patient was a man, aged 50 years, whom he saw on June 16th, 1909. The eruption was symmetrical on the arms; the lesions covered the backs of the arms and extended down the fronts of the forearms. It was now less red than formerly. It was retiform, and the first idea which would occur to the observer was that it was Lichen planus. But in other parts there were lesions not like those of Lichen planus. The general eruption had remained very much what it now was since last June. During the winter the symptoms might be said to be semi-Raynaud. There was now an extension of the eruption on the legs. It almost disappeared on pressure, except for the staining which was left behind, and which did not reach below the knee. He had suffered badly from chilblains, and did so now. The mouth was not involved. He could recall two or three cases of retiform eruption shown before the old Society. The patient was dyspeptic, and the disease very resistant to treatment. The condition had lasted nearly ten years. He believed it to be a case of localised Parakeratosis variegata. The condition was very rare. He believed that travelling to town daily in the very cold weather had something to do with the cause. He hoped to report the case in full later.

Dr. **MacLeod** said that he believed the case to belong to the type described by Unna and others as Parakeratosis variegata, and placed by Brocq in a group of rare affections of the skin to which he gave the name "parapsoriasis." The name "parapsoriasis" was an unfortunate one as applied to cases such as the one exhibited, as they did not seem to have any clinical or pathological relation to psoriasis and were much more resistant to treatment.

Dr. J. H. **Sequeira** showed a case of *Lupus erythematosus associated with Erythema iris.* The patient, a married lady, aged 41 years, had been under the care of Dr. Pugh, of Brighton. She enjoyed good health until the spring of 1908. The previous winter, which was a severe one, was spent in Paris, and the patient suffered very much from the excessive cold. In March, 1908, she developed Lupus erythematosus, which affected the nose, ears, and scalp. This ran a chronic course, with exacerbations in the cold season of the years. The patient has always felt the cold very much, and had suffered from chilblains on the feet and hands. There was a history of phthisis in her father's family, and one of her brothers had died from consumption. Her two children were quite healthy. There was no evidence of tuberculous disease in the patient herself, and no history of enlarged glands, etc., in childhood.

In February of this year a different type of eruption had appeared on the backs of both wrists and forearms. The lesions began as circular discs about the size of a shilling or a two-shilling piece. The erythema was soon followed by vesication. When first seen by Dr. Sequeira the spots had the characteristic appearance of Erythema iris. There was some soreness about the mouth, where a few vesicular lesions appeared on the red margin of the lip. There were no lesions in the buccal cavity.

The case was shown in view of the interest attaching to the association of Erythema multiforme with Lupus erythematosus, both being of probably toxic origin. It is interesting in this connection to note that G. Define has reported a positive von Pirquet reaction in a case of Erythema iris (*Giorn. Internaz. d. Sci. Med.*, Naples, 1909, xxxi, p. 1061; abstract, *Brit. Med. Journ.*, April, 1910).

Sir **Malcolm Morris** raised the question whether a patient with Lupus erythematosus was more prone to get Erythema multiforme than another person. He had looked back upon a large number of lupus cases, but the number of cases of Erythema multiforme was very small, therefore he did not think the two were necessarily associated. It seemed to be rather more common now, owing to influenza and gastric attacks.

Dr. **Pringle** said he thought the distinction generally drawn between erythematous lesions on the hands which left scars and those which did not was, as constituting an essential differentiating feature between Lupus erythematosus and Erythema multiforme, a purely academical one and unsound clinically.

Dr. **Winkelried Williams** showed a case of *Darier's disease.* The patient was a railway porter, aged 19 years. The duration of disease was three years. He had been first seen six months ago at the Sussex County Hospital. He had then presented a papular eruption distributed on the trunk as follows: On the back a band down the middle line from the buttocks to the neck, and extending about halfway across the back on each side; in front a somewhat triangular distribution with the base of the triangle betweeen the iliac spines, and the apex at the centre of the upper border of the manubrium sterni. The papules were discrete, averaging about the size of a hemp-seed; most of them were flat, but a few were acuminate and almost spinous. They were of dusky grey colour, and a few showed a slight pink glow through the dusky grey tint. There were also some crusted rupia-like lesions; these were mainly on the back between the shoulders is the middle line. There were also a few along the rib lines. Removal of the crusts in a few cases caused slight bleeding, but the majority showed under the crusts a red surface covered with a thin, shiny layer of epithelium; these crusted lesions rapidly got well under a weak, white precipitate ointment. There was an ulcer on tonsil and some adenitis which had existed a few days. The urine and temperature showed no abnormality. The throat rapidly got well under salicin treatment.

For six months the papular lesions had been vigorously treated with salicylic preparations, etc., and the only result had been to reduce the acuminate to plane lesions, and the eruption had extended somewhat. Internal treatment with salicin, iodide and mercury, quinine, arsenic, had not altered the rash in any way.

Histology.—There was very great thickening of the horny layer, which in its lower part retained acid dyes, *e. g.* eosin and acid fuchsin, more deeply than in the regions beyond the thickened part. Here and there rounded bodies were embedded in it, but these did not show any special affinity for the acid dyes. The plug-like masses of this horny tissue dipped down deeply into the rete. Below the horny masses the granular layer was thicker than in other parts, and there was also slight thickening of the rete and the cellular elements of the papillary layer of corium were slightly increased.

The rounded bodies of Darier were found in moderate numbers just below the horny cells. Sections from the centre of the plug showed some quite typically; their double contour was well marked; near the borders they were less distinct. They stained feebly by acid stains. On the whole they were not so numerous as in some cases.

Sir Malcolm Morris, who had seen Darier's original case in 1889, and Dr. Pringle concurred in Dr. Williams's diagnosis, but thought that further observation was necessary to render it a matter of certainty.

CURRENT LITERATURE.

CRUDE COAL-TAR IN DERMATOLOGY. Brocq. (*Ann. de Derm. et de Syph.*, January, 1909, p. 1.)

Coal-tar differs in many important respects from the tar derived from vegetable sources, and is probably much more toxic and correspondingly more active. Its chief disadvantages, the colour, and the smell, have been greatly modified by latter-day improvements in pharmacy. The method adopted by Dind, of Lausanne, by which *crude* coal-tar is swabbed on to the surface to be treated and powdered over with talc has found favour with Brocq; it is especially useful in chronic eczema. With a view to a more scientific study of the product of distillation of coal, Brocq gives detailed figures of the composition of various such products on the market, from which it is at once obvious that the variety is enormous. Coal-tar is seen to be richer in hydrocarbons than vegetable tar, which is, on the other hand, richer in phenols. The alkalinity of the supernatant water (in the distillation of coal) which separates from the thicker coal-tar may be dangerous in degree, and coal-tar may therefore with advantage be washed with distilled water before use in dermatology. Brocq's two warnings for the use of coal-tar are, then—(1) To specify the coal-tar produced in the making of illuminating gas; (2) to wash the product so as to remove caustic fluid ingredients. His technique of application is detailed as follows:

The surface to be treated is carefully cleansed by preliminary fomentations or zinc-ichthyol pastes; when there is much crust formation, to be followed by washing with boiled water and even with soap or with ether, when the parts are not too tender; the tar is then swabbed on in a thick layer and allowed to dry for as long as may be convenient, the longer the better, but in any case for not less than twenty minutes; talc powder is then dusted on, and the whole covered with fine linen which must not be thick enough to be impermeable. When there is not much weeping of the surface the dressing thus applied may be left in position for forty-eight hours; if there is no sensation of itching and the skin still remains coloured by the tar, fresh talc powder may be dusted on, the tar being renewed only after four to six days. If, however, there is much irritation, the dressing should be removed the day after, or two days after, the application, and zinc ichthyol paste applied to remove the tar. Occasionally the latter seems to increase discharge, and in that case only the talc powder should be applied in the intervals of painting on the tar, which will be required probably every fifth to seventh day. If it should be desired to remove a layer of coal-tar thus applied this may be effected with oil.

The results were particularly excellent with pruriginous and discharging forms of disease, more especially in eczema, but also in other diseases, notably in Lichen simplex chronicus. Its main effects are: (1) to dry wet surfaces; (2) to reduce inflammation, swelling and redness; (3) to suppress, temporarily at least, itching.

E. G. L.

RADIO-THEAPEUTIC TREATMENT OF EPITHELIAL, ESPECIALLY SUPERFICIAL EPITHELIAL CANCER: SOME STATISTICS AND REFLECTIONS ON. Lenglet and Sourdeau. (*Ann. de Derm. et de Syph.*, February, 1909, p. 99.)

Of fifty-nine patients, the subject of epithelial cancer, attending Brocq's clinique since 1896, whose after-history could be ascertained, thirty-six were accounted cured, eleven were still under treatment; three had had recurrences, two had been definitely unsuccessful, and seven had died. Details of all these are given in the text. With the successful cases the mode of treatment usually was to scrape the surface with a curette and then to apply X-rays; by this means the number of applications required of X-rays is greatly reduced; hard rays are recommended (No. 7 to No. 8), and a dosage of 5–6 H. at a sitting. If the lesion does not yield after five or six sittings (following on a complete scraping) the intervention of surgery is desirable. By these methods Brocq claims a proportion of 87 per cent of successes, and pronounces his opinion that scraping followed by X-rays still remains the best treatment for cutaneous epitheliomas.

E. G. L.

TREATMENT OF ECZEMA BY COAL-TAR. JAMBON. (*Ann. de Derm. et de Syph.*, January, 1909, p. 22.)

JAMBON confirms Brocq's recommendation of coal-tar in the treatment of eczema, and uses it in the following way: The surface to be treated is washed over first with a solution of methylene-blue in distilled water, in proportions of 1½ to 2 per cent. He disapproves of the subsequent powdering with an inert powder like talc, and recommends a few folds of a soft, unstiffened gauze, which is removed after a few hours, the treated surface being then left bare. If a fatty excipient for an ointment containing coal-tar is desired, lanoline and vaseline are both contra-indicated; fresh lard, not benzoated, on the other hand, is quite successful. To remove a layer of coal-tar which has been applied in the pure state some cotton-wool soaked in almond oil may be used.

Certain warnings are given as to the employ of this method. It should not be used with acute non-weeping eczema; when vesicular, however, even though acute, coal-tar may be used with advantage. Dry, scaly, itchy eczemas do well with this treatment. Infected eczema with folliculitis or pyodermitis should be carefully disinfected as a preliminary measure. Fissured hyperkeratosic forms do not succeed well as a rule.

E. G. L.

COMPARISON OF SPOROTRICHOSES AND COCCIC INFECTIONS. DE BEURMANN and GOUGEROT. (*Ann. de Derm. et de Syph.*, February, 1909, p. 81.)

IN the majority of instances sporotrichosis is unattended by rise of temperature or constitutional illness. Three cases from the literature are quoted in which, however, general symptoms were noted, comparable to septicæmia. Experimental inoculations of sporotrichosis performed in animals are usually of this type; the organism is demonstrable in such cases in the urine and the blood. In the great majority of instances of sporotrichosis the cutaneous and subcutaneous nodules are indolent, and do not behave like acute abscesses, but this simulation may occur, as in a case here referred to, published by these authors in 1907. In their rapid onset, the pain and tenderness which accompany them, the erysipelatous redness and œdema, and the early breaking down and discharge of pus, they closely copy the symptoms of an acute coccic abscess, and this is especially the case with subcutaneous collections of sporotrichosis. On the other hand, coccic infections of the skin may rarely imitate the cold abscesses, which are the common manifestation of sporotrichosis. Many so-called "tuberculous" abscesses are demonstrable as streptococcic, staphylococcic, or pneumococcic infections.

E. G. L.

A CONTRIBUTION TO THE CLINICAL STUDY OF THE GENERAL PATHOLOGY OF SKIN-DISEASES: FLUXIONS AND ALTERNATIONS OF DISEASE. Brocq. (*Ann. de Derm. et de Syph.*, March, 1909, p. 145; April, 1909, p. 225.)

It is well known that certain groups of diseases seem to alternate with affections of the skin, asthma being the type most commonly observed. Brocq quotes at great length the history of a male patient who had apparent immunity from pulmonary crises during his early childhood while he was treated by blistering, these crises becoming notable when the blisters were healed. For many years, from the age of nineteen to thirty-eight, he suffered from asthma alternating with stomachic derangements (gastric crises). At thirty-eight he developed a skin-eruption, of the nature of furunculosis (abscesses), and suffered for four years from this condition, during which time his asthmatic attacks ceased, to be resumed when his skin-condition was cured. At the age of fifty he developed a psoriasiform eczema which was intensely itchy. During the continuance of this condition his asthma again became ameliorated. He finally adopted a vegetarian diet, which seemed to be followed by complete cure of the skin-condition while the diet was adhered to, with recurrence of urticarial eruption when meat and wine were again partaken of. It is further to be noted that this patient's family history afforded examples of similar, but less striking, alternations.

A further series of twenty cases is cited of (1) alternation of pruritus and urticaria with spasmodic bronchitis and hæmorrhoids; (2) prurigo with asthma; (3) pruritus and eczema with asthma; (4) pruritus and eczema with asthma; (5) eczema with asthma; (6) eczema with asthma; (7) vesicular eczema with asthma; (8) seborrhoic eczema with asthma; (9) urticaria and eczema with gastralgia; (10) pruritus with zoster and neuralgia; (11) seborrhoic eczema with headaches; (12) pruritus with attacks of true gout; (13) Lichen planus and pruritus with true gout; (14) vesicular eczema of fingers with true gout; (15) vesicular eczema with hepatic colic; (16) pruritus and vesicular eczema with visceral disturbance; (17) pruritus and eczema with visceral troubles; (18) papulopustular recurrent eruption of face with visceral troubles; (19) Lichen simplex chronicus with epileptoid crises; (20) pruritus and lichenification with acute œdema of Quincke.

The second part of this very philosophical paper is devoted to a critical and historical study of earlier and of contemporary authors, who adopt the view of alternation of dermatoses with visceral disease. It does not admit of abstracting, but should be read in its entirety.

E. G. L.

THE EMPLOYMENT OF COAL-TAR IN CUTANEOUS AFFECTIONS. Dind. (*Ann. de Derm. et de Syph.*, March, 1909, p. 170.)

Dind gives some analyses of coal-tar, which he has been accustomed to use for the past five years in its crude form as derived from the gasworks. A comparison of coal-tar derived from Lausanne, Geneva, Zurich, and Bâle is given, based on a qualitative analysis. The coal-tar should be kept in carefully corked bottles or flasks to avoid evaporation of volatile constituents, which constitute a valuable part of its efficacy. In order to hasten the drying of the coal-tar upon the surface of the body, Dind powders the smeared portions with talc. Coal-tar may be mixed with vaseline, lanoline, or lard; it may be diluted with linseed oil and lime-water, as for use on the scalp.

The undiluted and unmixed product is particularly useful in chronic eczema, in Lichen simplex chronicus of Vidal, in prurigo, and pruritic conditions generally.

E. G. L.

REMOVAL OF TATTOO-MARKS BY DECORTICATION. Dubreuilh. (*Ann. de Derm. et de Syph.*, June, 1909, p. 367.)

Dubreuilh reports two cases in which he was successful in removing troublesome tattoo-marks from the face by slicing off the superficial layers of the skin with a sharp razor, leaving, where possible, the ends of sebaceous glands intact, from which epidermisation of the surface would take place and leave no scar or appreciable mark. Where it was necessary to remove still deeper layers, or where sebaceous glands were not numerous or well developed, the surface was immediately covered with Thiersch grafts. By these means the whole tattooed area may be taken away. The pigment lying in quite superficial layers of the corium, it is not necessary to remove the entire skin, but only to peel off the affected zones.

E. G. L.

A CONTRIBUTION TO THE STUDY OF CONGENITAL ICHTHYOSIFORM ERYTHRODERMIAS, WITH TWO CASES: A TYPICAL AND AN ATYPICAL FORM. Nicolas and Jambon. (*Ann. de Derm. et de Syph.*, August-September, 1909, p. 482.)

The first case occurred in a lad, aged 6 years, who had been scaly since birth. When seen the disease was generalised, and especially marked on the flexures of the joints, least conspicuous on the palms and soles. The skin was dry, fissured, and desquamatory, and presented everywhere a red tint. The scalp was pityriasic. There was no visceral disease, no albumen or sugar in the urine; the thyroid was normal; the nails were furrowed. Starch baths and salicylic acid ointment effected temporary improvement while used.

The second case, in a boy, aged 7 years, was also congenital. A grandfather and the mother had had a disease which appeared to be probably ichthyosis. In several respects the second case resembled the first—in the desquamation, the hyperkeratosis, the erythrodermia, and the accentuated scaling, in the axillæ more especially. It differed from the first case in having, not a universal desquamation, but festooned areas, bordered by a red line and extremely symmetrical. In neither case was there any exaggerated growth of nails or hair—a point formerly made by Brocq, who called this symptom "hyper-épidermotrophie." A detailed microscopic examination is given, and there are plates of the clinical aspect. Differential diagnosis is offered, showing points of difference from ichthyosis (in which, *e. g.*, the flexures are spared) from psoriasis, from Pityriasis rubra pilaris.

The second case approaches more nearly to the *Maladie de Méleéda* than to any other classified disease. E. G. L.

SULPHUR IN DERMATOLOGY: SOME CONSIDERATIONS ON THE ACTION OF. Brisson. (*Ann. de Derm. et de Syph.*, November, 1909, p. 639.)

This is a careful and useful paper on the therapeutic value of sulphur, of which three forms are in use:

(1) Sublimated sulphur.

(2) Precipitated sulphur.

(3) Colloidal sulphur. The latter is a precipitate of sulphur in a gelatine medium.

The rapidity with which sulphuric acid could be formed from the preparation of sulphur used was the criterion adopted to determine its activity. In a watery medium contact with numerous materials, *e. g.* mercury resorcin, zinc. oxidi, ol. cadin., showed very little variation in the production of sulphuric acid, with this exception, that no change took place in the sulphur in the presence of tannin or ol. cadin. When sodium chloride was added to the watery medium used before, a notable augmentation in the amount of sulphuric acid produced was apparent. The same augmentation in a chloride medium was noted with compounds of sulphur as with sulphur itself. Still more potent is the action of serum (that of the horse was tested) than that of salt solution. Sulphur is thus shown to act as the sulphate and not as the element, and certain factors influence the action, among which are the fineness of the mechanical division (the precipitated sulphur is more active than sublimate), the presence of chloride of sodium or of serum in certain proportions, and the presence of certain katalysing agents. Substances which promote the production of sulphuric acid are keratolytic; substances which retard this production are keratoplastic. Of the former, the most conspicuous examples are the heavy metals; of the latter are the monophenols, aldehydes, and acetones.

The *rôle* of sulphur in metabolism is probably that of fixing and eliminating toxins. It is increased in the urine in the same proportion as nitrogen, and its elimination is *pari passu* with the elimination of chlorides.

E. G. L.

COLLIQUATIVE NECROSIS OF THE CORIUM IN MULTIPLE FOCI, AND OF CHRONIC DURATION. Scaduto. (*Ann. de Derm. et de Syph.*, October, 1909, p. 565.)

The patient here reported suffered for three years from a skin-eruption, which consisted of pustules, abscesses, large ulcerations, and granulating surfaces, followed by enormous scarring and fibrous cords, large atrophic patches, and pigmented areas; there was general enlargement of superficial glands; the mucosæ were intact, except that there was a slight catarrh of the cervix uteri. Syphilis was thought to be the cause, and mercurial injections and iodide of potassium were prescribed. Within a month of this treatment she began to have large pustules followed by prominent tumours, transparent like Molluscum contagiosum, and without hyperæmia. These swellings, on being pinched and squeezed, exuded a milky fluid, leaving an excoriation which exposed the cutis vera.

A daily sulphur bath and milk was ordered, and much improvement resulted. The patient left hospital a month later, to return in some months with a similar condition of the scalp. She was dismissed improved, but apparently had a later attack, to which she succumbed. The diagnosis remained obscure.

E. G. L.

LOCAL INTRA-DERMO REACTION TO TUBERCULIN IN LUPUS VULGARIS. Thibierge and Gastinel. (*Ann. de Derm. et de Syph.*, December, 1909, p. 684.)

Mantoux and Pautrier described a method of injecting a very feeble dose of tuberculin into the scars of lupoid lesions, the injection being followed by certain reactions in the case of any diseased tissue remaining in the scar, which when thus revealed, can be treated, *e.g.*, by cautery. Thibierge and Gastinel have tested this method with dilutions of 1 : 500,000 in physiological salt solution. One hundredth of a milligramme of tuberculin was the quantity used. A local reaction ensued within twenty-four hours, consisting of redness, swelling, and infiltration; this was at its height on the second day, and diminished after the third day, finally disappearing after about six or eight days. But after disappearance of these phenomena there persisted small red patches, slightly raised, which would in their turn disappear in about ten days; these small foci were demonstrated to be seats of still active disease, unrecognisable clinically before the test was applied. The method thus offers a valuable means of controlling the action of whatever therapeutic measure may be adopted against lupus.

E. G. L.

LIST OF BOOKS, PAMPHLETS, ETC., RECEIVED.

From Messrs. Rebman, Ltd., London, 1909. *A Short Handbook of Cosmetics.* By Dr. Max Joseph. English translation. Price 2*s.* 6*d.*

From the Henry Phipps Institute, Philadelphia, 1909. *Fifth Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis.* Edited by Joseph Walsh.

From Dr. Werner Klinkhardt, Leipzig, 1910. *The Origin of Melanotic Pigments.* By S. Meirowsky. Price 10*m.*

From J. Wright and Sons, Ltd., Bristol, 1910. *Medical Annual*, 1910. Price 8*s.* 6*d.* net.

Bouchy et Cie, Paris, 1910. *Esquisses cliniques de Physicothérapie.* By J. A. Rivière. Price 7*fr.* 50.

S. Karger, Berlin, 1910. *Die Syphilis der Nase, des Halses, und des Ohres.* By P. H. Gerber. Price 6*m.*

Cassell & Co., Ltd., London. 1910. *Radium Therapy.* By Dr. Louis Wickham and Dr. Degrais. Translated by S. Ernest Dore. Price 15*s.*

Masson & Co., Paris, 1910. *Les Teignes.* By R. Sabouraud. Price 30*fr.*

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TWO CASES OF MOLLUSCUM CONTAGIOSUM.

By E. GRAHAM LITTLE, M.D., F.R.C.P.

Molluscum contagiosum is a comparatively rare disease, especially in adults, and the two following private cases which have occurred recently in my practice may be considered of sufficient interest for record in the Journal.

The first occurred in a lady of good position, aged 54 years, who visited me in November of last year. She had been for many years a sufferer from rheumatism, and for two years previously had been ordered frequently repeated Turkish baths, which she obtained almost exclusively in one establishment at a seaside resort; she had been usually "rubbed" by the same masseuse, the wife of the proprietor; the latter was a pigeon fancier and was a great breeder of these birds. He, however, denied any illness among the birds, and, perhaps naturally, repudiated any suggestion that *his* baths had been the source of infection in the case. The last bath had been taken some four months before the appearance of the eruption, which had been noted for eight weeks before she appealed to me for advice. When she came under observation there were very numerous typical molluscum tumours, some sixty in all, distributed irregularly over the trunk, both back and front, and not occurring on any other part of the body. They caused little or no inconvenience, with the exception of one lesion which had become slightly inflamed, probably from pressure of the corsets, the patient being of very full habit and lacing rather tightly. The face, the neck, the scalp, the hands and the genitals, parts most commonly affected, were in this case absolutely free. The tumours varied in size from that of a pin-head to that of a small bean or pea; in a few positions, *e.g.* over the shoulders, there were small groups of lesions—five or six juxtaposed tumours apparently the result of infection by contiguity. The husband, who, however, was not examined by me, appeared to have escaped contagion; and no other cases occurring in the clients of the Turkish bath chiefly implicated could be traced.

The second case occurred a few weeks later, also in a lady, aged 40 years, the wife of a staff-officer in the Army. She, like the previous case, had had a course of Turkish baths in London, the last bath having been given on September 11th, 1909. A "wart" appeared on one of the fingers about the end of September, and was excised on October 7th by her family medical man. Some ten days later she began to note small tumours on the body, which were mistaken for warts on the supposition of infection from the wart on the finger, and no attention was paid to them until some of them began to bleed, when she finally was sent to me.

When seen by me she had very numerous typical molluscum tumours scattered over the trunk, both back and front, and nowhere else, the face, neck, scalp, limbs and genitals being completely free of disease. There were about fifty lesions in various stages of development, some quite rudimentary, others as large as a pea, and a few of these latter were suppurating. Her husband, whom I inspected later, appeared to have escaped contagion. She has no children. The only pet kept before the eruption appeared was a dog, which has since been carefully examined by a veterinary surgeon, who pronounces the animal to be perfectly free of disease.

The treatment adopted in both cases was the same. The individual tumours were incised, their contents squeezed out under aseptic precautions with forceps, the cavity swabbed out with a sharpened wooden match-end dipped in pure carbolic acid, and dressed with gauze wet with collodion. In the first case, which was dismissed three months ago, there has been no recurrence. The second case is too recent for any such statement to be made.

It will be noted that in both cases the distribution was entirely similar, and the number of lesions very unusual; in both cases the interval between the appearance of the eruption and the last probable source of infection was considerable. It is to be noted also that the style of the Turkish bath frequented by both ladies was irreproachable as far as expensiveness could procure such a condition.

Radcliffe-Crocker,* in his third edition of his text-book, in a footnote records three similar cases occurring in his practice, all in persons in whom the infection could be attributed to Turkish baths, and quotes Hutchinson's similar experience. Knowles† describes an epidemic of Molluscum contagiosum occurring in an institution for children, 59 cases of the disease having been noted out of a total of 350 children. The largest number of lesions present in any individual case of this series was twelve, and the face was much the commonest site for the eruption, this being the seat of the disease in thirty-eight out of fifty-nine cases. The incubation period, *i.e.* the time elapsing between possible sources of infection and the appearance of the eruption, varied within wide limits—from a few weeks to many months. In experimental inoculations the same variability was noted: in a case of Juliusberg's it was fifty days; in a case of Serra's it was ninety days. The virus is demonstrably capable of filtration through a Berkfeld filter, the filtrate being bacteriologically sterile, yet able to produce the disease. This filtrate has been examined in the fresh state by Casagrandi,‡ who found small masses with oscillatory movement, granular in constitution when stained. Giemsa's solution, very weak, and allowed to act only for ten to thirty minutes, produced three different staining effects, of which an element taking a red stain seems to be a young form, which changes in structure when older. Pick § appears to have found, with a dark-stage microscope, that the corpuscles which are characteristic of Molluscum contagiosum have amœboid prolongations, and contain mobile elements which stain like cocci. He concludes that the corpuscles are phagocytic.

It is noteworthy that in Japan, according to Sakurane,|| cures of Molluscum contagiosum seem to be effected by *internal* treatment

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* *Diseases of the Skin*, third edition, vol. ii, 1903, p. 677.

† *Journ. Amer. Med. Assoc.*, August 28th, 1909.

‡ *Ann. de Derm. et Syph.*, abstract, 1908, p. 455.

§ *Ibid.*, 1907, p. 147.

|| *Ibid.*, 1907, p. 730.

only, a decoction of seeds of a certain grain apparently bringing about cure in periods varying from a week to two months.

The incidence of Molluscum contagiosum seems to vary curiously with locality. I owe to Dr. Arthur Hall, of Sheffield, the appended statistical details of the proportion of cases of Molluscum contagiosum compared with general diseases of the skin, in several important provincial cities. Dr. Hall, in the covering letter which accompanies the statistics, which are appended, writes as follows:

"In the year 1904 a case of generalised Molluscum contagiosum of the trunk presented itself at my out-patient skin clinic at the Royal Hospital, and I was reminded thereby that I had not seen a single case of this affection during the fourteen years I had been on the Hospital staff, either in hospital or private practice. Remembering the very considerable number of cases I saw in London during my student days, this complete absence of cases here seemed curious, and I made inquiries of my colleagues here, both ophthalmic surgeons and others, on the point, but found that their experience coincided with mine, namely, that the disease was non-existent in Sheffield and district.

"This was further supported by the fact that the man suffering from Molluscum contagiosum spoken of above was not a resident, but belonged to Manchester, and in his work as railway guard was only in Sheffield for an occasional night.

"This led me to make inquiries from various leading dermatologists, ophthalmic surgeons, and others having opportunities of seeing such cases, in most of the larger centres in the United Kingdom, to ascertain whether the distribution of Molluscum contagiosum was widespread or limited to certain districts. I did not include London in this inquiry, as I knew the disease was well known and regularly seen there.

"I had hoped to complete these inquiries, but for various reasons they were put aside from time to time, and as they are of considerable interest I shall be pleased for you to make use of them.

"I should like to take this opportunity through you of expressing my thanks to all those who so kindly troubled to answer my questions, in many cases at considerable length. To some of them it is now, alas! too late to return thanks, for they are no longer with us."

Dr. Hall wishes me to emphasise that the information he has thus obtained was given in the form of a letter, and is often merely a general expression of opinion.

Manchester (Dr. H. G. Brooke): "Amongst 17,238 cases of skin-disease attending between the years 1901 and 1904 there were seven cases of Molluscum contagiosum, occurring as follows: Two in 1901, five in 1904." He believes that it was more common ten to fifteen years ago.

Liverpool (Dr. Leslie Roberts): "It is quite rare. Seen occasionally in children, but much more rarely than in London."

Leeds (Dr. Barrs): "I have only seen one genuine case."

Newcastle (the late Dr. Limont): "In the Skin-Department of the Royal Infirmary the following cases are recorded:

"In 1900	.	1 case	in 1156 cases	
,, 1901	.	4 cases	,, 1257 ,,	
,, 1902	.	3 ,,	,, 1493 ,,	
,, 1903	.	0 ,,	,, 1751 ,,	
,, 1904	.	0 ,,	,, 1813 ,,	
Total	.	8 ,,	,, 7470 ,,	about 1 per cent.

"All these cases were in children, except one in which the mother of one of them was affected on the breasts."

Hull (the late Dr. Elliott): "In many years' hospital experience I only remember seeing one case; in private, none."

Nottingham (the late Dr. W. B. Ransom): "I have never heard of a case in this district."

Lincoln (Dr. Mansel Sympson): "I do not remember having seen a case of this complaint since leaving St. Bartholomew's Hospital in 1888."

Shrewsbury (Dr. H. W. Gardner): "I have inquired amongst our infirmary staff and from our House surgeons, and apparently Molluscum contagiosum is unknown here."

Cambridge (Dr. L. Humphrey): "I have only seen one case here, in a young person."

Oxford (Dr. Collier): "Very rarely indeed."

Birmingham (Dr. E. Gilbert Smith): "It occurs rarely, about one or two cases a year, both in hospital and private practice. It is seen about equally in children and adults. I find it follows, in moist skins, Turkish baths, where towels are never washed, but simply wrung out and dried before use. At least that is one cause amongst private patients."

Bristol (Dr. Harrison): "Out of 19,182 skin cases at the General Hospital from January, 1885, to September, 1904, I have records of sixteen cases, or about ·0834 per cent. only. But the incidence of these is so peculiar that one may very properly divide the period into three stages. Thus between 1885 and 1892 I had fourteen cases—six males and eight females—their ages varying from three to thirty years. During the years 1893 to 1896 inclusive, no cases. In 1897, one case in a male, aged 16 years. From 1898 to 1902 inclusive, no cases. In 1903, one case, male, aged 1 year, and there was said to be another case in a child, which never turned up. Some of the cases occurred in the same family, but as regards general contagiousness, the evidence is very slight; not as much as psoriasis, probably. I was in very active practice at Walsall, in Staffordshire, for thirteen years before I came here in 1877, and during that period saw very few cases of the complaint, whilst in London, both hospital and dispensary practice, I had seen several cases."

Portsmouth (Dr. Claremont): "It occurs, but is uncommon. Chiefly in children."

Plymouth (Dr. Russel Rendle): "It is seen occasionally. I have only seen one or two cases, I think in children."

SCOTLAND.

Edinburgh (Dr. Norman Walker): "It is moderately common. One or two cases a year in about 1600 new cases. Chiefly in hospital practice, more in children than adults. Many blame the public baths for its occurrence."

Glasgow (the late Sir T. McCall Anderson): "It is not rare. It is seen more frequently in hospital than private practice, and generally in ophthalmic institutions owing to its tendency to develop around the eyes. It affects children more than adults."

Aberdeen (Dr. Christie): "It is fairly common. We see three or four cases a year out of about 500 new cases of skin-disease. It is chiefly seen here on young adults and mostly among the girls working amongst fish. Dr. Christie adds: In my student days here, Dr.

Gardner, my predecessor, had always cases of Molluscum contagiosum to show us. The disease was then 'endemic' in one of the reformatory schools here. If I remember correctly, Galloway mentions this fact in his article in *Allbutt's System*. Nowadays we see it occasionally, and I am sure I am right in saying that it almost always occurs on the arms of girls who work amongst fish. I have occasionally seen it in private; the last case on the armpit of a young man, a coal merchant. How it got there I cannot tell."

IRELAND.

Dublin (Dr. William Beatty): "In ten years, from 1887 to 1897, in the Adelaide Hospital, out of 4505 skin cases I had fifteen of Molluscum contagiosum, *i. e.* about 0·33 per cent. I have met with five cases outside hospital; two were in teachers whose duties kept them in contact with the lower classes, one a girl from a charity school, one a doctor, and one a medical student suffering from secondary syphilis. It is more common in children than adults."

Belfast (Dr. Pardon): "It is rare. During the last two years I have seen two cases at hospital, both children, and two in private practice. I should say about one case in 1000 skin cases."

Summarised, we get as follows:

ENGLAND.

Occurs fairly regularly in Manchester, Newcastle, Liverpool, Birmingham, Bristol.

More rarely in Portsmouth, Plymouth.

Practically unknown in Leeds, Sheffield, Hull, Nottingham, Lincoln, Shrewsbury, Oxford, Cambridge.

SCOTLAND.

Occurs frequently in Edinburgh, Glasgow, Aberdeen.

IRELAND.

Occurs frequently in Dublin, Belfast (less so).

It is interesting to note that with the exception of Manchester and Birmingham, all the places in which it occurs at all regularly are seaports, whilst, with the exception of Hull, all the places where it is practically unknown are inland.

Manchester, too, of recent years has become a seaport.

Dr. Christie's remarks as to the fish dressers is interesting in this connection, and it might be worth some further inquiry at seaports dealing particularly with the fishing trade, such as Grimsby, Yarmouth, etc.

P.S.—(1910) I may add that during the last two years, three or four cases have been seen here in children.

Statistics of Comparative Frequency of Molluscum Contagiosum from Various Sources.

Places (in order of frequency).	Source of information.	Total cases of skin-disease.	Total cases of Molluscum contagiosum.	Per cent.
Dublin . .	Beatty (private communication)	4.505	15	0·33
London . .	Crocker (text-book)	15.000	32	0·21
New York .	Bulkeley (text-book)	20.000	20	0·1
Newcastle .	Limont (private communication)	7.470	8	0·1
Manchester .	Brooke ,,	17.238	14	0·083
Bristol . .	Harrison ,,	19,182	14	0·077
Glasgow . .	Anderson (text-book)	11.000	7	0·06
		84,395	110	

Average percentage in 84·395 cases of skin-disease = 0·13.

In comparison with these provincial figures, all of which I owe to Dr. Hall, the incidence in London seemed an interesting fact to determine. With this object I approached the teachers of dermatology in the Metropolitan medical schools, and tabulated my own cases at St. Mary's Hospital, with the following results:

St. Mary's Hospital.—Cases tabulated since April 6th, 1903. In 11,500 cases of general skin-diseases (recorded as new cases only), Molluscum contagiosum occurred fourteen times, namely, as follows:

Female, aged 24 years; female, aged 2½ years; female, aged 5 years; female, aged 16 years; female, aged 20 years; female, aged 21 years; female, aged 53 years; female, aged 60 years; female, aged 47 years; female, aged 2 years; male, aged 2¾ years; male, aged 7½ years; male, aged 38 years; male, aged 3 years.

It will be seen that there was a considerable preponderance of females over males, and that the cases under puberty were less numerous than in those above that age (six against fourteen).

It must be understood that in every case in which the diagnosis was definitely made (and only those cases are included here), microscopical examination of the squeezed-out molluscum bodies confirmed the diagnosis. It is more difficult to tabulate private cases, but I should say the incidence was on the whole smaller than in the hospital series. I have not included in these figures any of my cases seen in my department at the Children's Hospital, Shadwell, where the proportion would probably be greater than in a mixed clinique.

It is noteworthy that in not a single instance was any history of infection made out, although the question was carefully inquired into and even pressed. In none of the cases was there anything approaching the severity or extent of the lesions noted in the two private cases recorded above, the number being restricted to, at most, ten lesions in any individual case.

Tumours were excised in one case and examined histologically, and revealed the characteristic and well-known appearances, which it is not necessary to detail here.

I append some expressions of opinion and some statistics, which have been kindly furnished me by friends and colleagues at some of the medical schools.

Dr. Colcott Fox writes: "I think it is much less common than formerly. In my experience it is comparatively rare in the out-patient skin-department at Westminster Hospital, but was not of every-day occurrence at the Paddington Green Children's Hospital. I have seen twenty or thirty cases in children sent into the Metropolitan Asylums' Board Schools with ringworm, which shows it must be spread about in poor-law institutions."

Dr. Pringle writes: "I see only selected cases which are passed by other officers (at the Middlesex Hospital). Both the casualty, medical, and surgical officers would recognise and treat such cases as casualties. I am pretty certain most cases are to be found in the children's department. When I was at Moorfields in 1881–1882 cases were common."

Dr. J. M. H. MacLeod writes: "In the out-patient department at Charing Cross Hospital during ten years there have been six cases of Molluscum contagiosum out of 6712 patients. At the Victoria Hospital during four years (1903–1906) I had only two cases out of 3563 cases, all in children." It will be noted that in the first figure given, representing cases at Charing Cross Hospital, the proportion is almost exactly the same as in my own experience at St. Mary's.

Dr. Radcliffe-Crocker, in his text-book (third edition), gave an analysis of 10,000 hospital cases (at University College Hospital), in which Molluscum contagiosum occurred twenty times—2 per 1000—and 5000 private cases in which it was noted twelve times—a much larger proportion in both series than my own later experience would confirm. The disease would appear to be becoming rarer, as noted by Dr. Fox.

Dr. Edward Stainer has kindly given me the following figures of the cases in his department at St. Thomas' Hospital, which includes a special children's skin-department as well as the general adults; he found eighteen cases of Molluscum contagiosum in 13,618 cases of general skin-diseases (1·3 per 1000).

Dr. Sequeira has kindly examined records of 1000 consecutive cases of skin-disease at the London Hospital, and reports four cases of Molluscum contagiosum in this number.

Dr. Whitfield has allowed me to inspect some records at the Great Northern Hospital which have been somewhat scantily kept, but from which the proportion appears to be 6 cases of Molluscum contagiosum in 5644 cases of general skin-disease (1·06 per 1000), the following being the incidence of sex and age:

Male, aged 30 years; male, aged 6 years; male, aged 41 years; male, aged 2 years. Female, aged 3 years; female, aged 7 years.

It will be seen from the London statistics that I have been able to compare that the proportion of cases from contemporaneous and similar records (St. Mary's, St. Thomas's, Charing Cross, and Great Northern) is curiously constant (1–1·2 per mil.). In Dr. Crocker's statistics, which somewhat antedate these, the proportion is larger (2 per mil.). A possible explanation of the larger percentage may be that Dr. Crocker certainly included in these figures cases seen at the East London Hospital for Children, and this inclusion raises the percentage, as I can testify from a personal acquaintance of fifteen years with the same institution. Or it may be explained by the suggestion made by Dr. Colcott Fox, that the disease is becoming more rare.

In Dr. Sequeira's series alone is there any large disproportion, and it is probable that at the London Hospital, which draws its cases chiefly from the East End, the ratio is much higher; no doubt also the smaller number of cases compared in his figures allows of fallacy.

It only remains for me to thank those colleagues and friends who have so kindly supplied me with statistics, and notably, Dr. Arthur Hall, who in the most generous way has placed at my disposal the carefully compiled figures which he had himself intended to publish.

THE FUNCTIONS OF THE SKIN.

By M. S. PEMBREY, M.A., M.D.,
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Lecture II.

In the first lecture the pigment of the skin was considered briefly in relation to the structure of the skin. It is necessary now to trace as far as possible its origin and to discuss its functions.

The pigment of the skin and hair is known as *melanin*, but the use of this term does not imply that all the pigments are of the same chemical composition. The colour may vary from a more or less dark brown to black; the granules are amorphous, insoluble in water, alcohol, ether, and acids, but soluble in caustic soda. The melanins contain carbon, hydrogen, nitrogen, and oxygen, and in some specimens sulphur; as a rule they possess more carbon but less nitrogen and hydrogen than the proteins. The proportion of sulphur varies; thus in some forms it is very high, in others it is absent.

There is considerable doubt about the purity of the pigments examined by different observers; the granules may have a colourless ground substance, which is stained by the true pigment, and for this reason a solution of the granules may contain substances in addition to the pigment. The black pigment-granules in the hair of the horse's tail can be prepared by treating with concentrated hydrochloric acid for nine or ten weeks at the ordinary temperature of a room. From these granules two substances can be separated —melaninic acid and oxy-melaninic acid, $C_{52}H_{36}N_{10}O_7$ and $C_{18}H_{11}N_5O_{10}$; they are free from sulphur, and in this respect resemble the pigment of the choroid of the eye. The pigment of the skin and hair of the negro has more medical interest. It was extracted by Abel and Davis in the following way: The material was macerated with alkali until a black fluid was obtained; the addition of alcohol produced a black precipitate; this was digested in the cold with acid, and the black granules so obtained were dissolved in caustic potash and then precipitated with acetic acid. By a repetition of the latter part of the process the product was purified. This form of melanin contained about 3·6 per cent. of sulphur, 15·5 per cent. of nitrogen, and a mere trace of iron. The unpurified granules of pigment, on the other hand, possess much iron. The pigment of the hair contained less nitrogen than that of the skin. From quantitative estimations it has been calculated that the whole skin of an adult negro of average body surface contains only about 1 grm. of melanin.

The origin of the pigment is a subject of great interest and one which has been much discussed. There are two views to consider, for it is impossible with our present knowledge to dogmatise upon the question. The old view ascribed the origin of the pigment to the hæmoglobin of the blood. The changes in the colour of the skin after a blow, which produces a bruise, are due to the effusion of blood, the pigment of which undergoes a series of chemical changes, hæmoglobin passing through hæmosiderin, hæmofuscin, and hæmatoidin. The last pigment contains no iron, and this is also the case with most of the samples of melanin. The chemical composition of hæmatoidin shows that it is closely allied to the pigments of the bile, bilirubin, and biliverdin; it is, indeed, often regarded as identical with bilirubin. The liver forms these pigments by its action upon the hæmoglobin of the broken-down red corpuscles of the blood. Urochrome, the chief colouring matter of the urine, is another allied substance, and probably arises from the destruction of hæmoglobin.

Modern investigation, however, has thrown doubt upon the old view, and has produced evidence which points to the origin of the pigment of the hair and skin from decomposition products of protein. Artificial melanins can be obtained by boiling proteins with dilute mineral acids, and the process involved in their production appears to be one of simple hydrolytic cleavage of the protein molecule. These pigments have all the general characteristics of natural melanins, and differ only in minor points from the pigment obtained from the skin and hair of the negro. Protein-chromogens are formed in the small intestine during pancreatic digestion, and the view has been propounded that they are the mother-substances from which all the animal pigments arise. Thus the relationships between melanin and derivatives of hæmoglobin may be due, not to the origin of the one from the other, but to their common origin from the decomposition products of protein.

Further evidence of relationship has been obtained from comparative physiology. Turacin is the red pigment of the wing-feathers of the plantain eaters (*Musophagidæ*). These Touracos, as they are called, are found in Africa and nowhere else. Travellers state that the brilliant red colour is washed out if the bird is exposed to violent showers during the rainy season, but is renewed after a few days. This pigment is characterised by the presence of 7·1 per cent. of copper, and yields on treatment with strong sulphuric acid a purplish-red solution which possesses the spectrum of acid hæmatoporphyrin. Its relationship to the pigment of the blood is shown further by the fact that a solution of hæmatoporphyrin yields turacin when it is boiled with cuprammonium solution; the addition of copper to that derivative of hæmoglobin produces turacin.

Other observations show that the pigments of many of the lower animals, vertebrates as well as invertebrates, may arise from the products of protein decomposition. The colours in the wings of butterflies are in some cases due to uric acid, and in others to substances closely related to uric acid. Thus there is much evidence in favour of the modern view that the pigments of the skin and of the blood have a common origin from the chromogenic or aromatic groups in the protein molecule.

The question of the means whereby the mother substance is converted into the pigment was mentioned in the first lecture, and evidence was given to show that it was due to an oxidase, to an oxidising ferment present in the cells of the tissues. Numerous examples of these ferments are known, but the chemical composition of the active substances has not been determined. The beetroot reddens and turns almost black on exposure to the air; this is due to the oxidation of tyrosin by the oxygen of the air under the influence of a specific oxidising ferment—tyrosinase. Considerable quantities of tyrosin can be obtained from the beetroot, and it is of interest to recall the fact that in animals tyrosin is formed from protein during pancreatic digestion.

Although our knowledge of pigmentation is very imperfect, it is possible to link these different facts together. The antecedents of the pigment are probably decomposition products of protein and circulate in the blood; the tissues possess specific ferments in their cells, and are able to convert the chromogens into pigments. Albinoes can form hæmoglobin, but not melanins; they appear to lack the appropriate ferment. In addition certain factors influence the activity of the ferments. The skin of the white man becomes brown on exposure to the sun, and this pigmentation cannot be explained apart from a definite local action. A line of demarcation is seen round the neck, round the arms, and in children around the legs, and in each case it coincides with the limit of the clothing. It is not a question of increased temperature, but of exposure to the sunlight; the dilatation of the blood-vessels of the skin is not the cause, for this is seen in albinoes, and they do not become sunburnt. Other local conditions may increase the process of pigmentation; the skin of men infested by lice is deeply pigmented, and after the application of a mustard plaster the local pigmentation is increased; in brown horses patches of black hair may appear in areas which have lost their brown hair previously as the result of some cutaneous disease.

It is well known that there are racial and individual differences: some white men readily become sunburnt; others show much less pigmentation, even when the exposure to the sun is similar in the two cases. This may be due to differences either in their metabolism or in the activity of the ferments of their tissues. The baby negro is at birth much lighter in colour than his parents, and does not acquire the true colour for some days. Whether this change is due to exposure or to the difference in nourishment appears to be unknown. The origin of pigment from the decomposition of proteins would suggest that different foods might influence the pigmentation. Gilbert White relates an observation in support of such an influence of food: he saw a cock bullfinch, which had been caught when it was in full plumage; it had become darker and darker in colour until at the end of four years it was quite black. Its chief food had been hempseed.

The function of the colour of animals has attracted for years the attention of naturalists, and there is a vast literature upon the subject The colours of animals have different uses, and it is necessary to remember that in many cases they are not due to pigment, but to reflection and refraction of light by the cutaneous tissues or appendages. It is quite impossible to discuss these questions fully in these lectures, but references to monographs upon the subject will be given.

According to their functions the colours of animals may be classified. Poulton divides them into two main groups—the non-significant colours and the significant colours. In the former no special function can be attributed to the colour; in the latter several subdivisions can be made, thus: (1) Colours of direct physiological value; (2) colours for protective and aggressive resemblance; (3) colours for protective and aggressive mimicry; (4) warning colours; and (5) colours for display during courtship.

The pigmentation of the black races is a well-known example of a colour of direct physiological value; it protects against the injurious action of certain rays of the sun. A negro can withstand exposure to intense sunlight, which would be intolerable to a white man unprovided with special clothing. This is not a question of exposure to heat, for it has been found that as stokers on board ship or in furnaces the coloured man is not superior, but even inferior to the white man in resisting the effects of heat and moisture. The pigment of the skin prevents the penetration of the injurious rays. The skin unaccustomed to exposure is readily irritated by the sun of an English summer; there is a great dilatation of the cutaneous blood-vessels, and this may be followed by inflammation and exudation of fluid, sufficient in many cases to form blisters. By gradual and continued exposure the skin becomes sunburnt and is thus protected against the sun. Comparative experiments made upon the skin of Europeans and Malays living in the tropics have shown no difference in the radiation of heat, but a greater absorption of heat in the case of the brown skin of the Malays. There is little doubt that the pigment gives protection against the ultra-violet rays, but not against the heat rays. It absorbs the actinic rays, and this appears to be the reason why the photograph of a negro is indistinct when compared with that of a white man, whose skin reflects more light with actinic power. Pieces of skin from a frog placed over sensitive photographic plates prove that the pigmented parts are very effective in absorbing the chemically active rays of light.

Climate produces a marked effect, and it may be asked whether it is responsible for the racial differences in the colour of mankind. As a general rule, intensity of pigmentation and of sunlight go together in the different parts of the world. It is stated that in India there are Jews who are as dark as the natives. If this be true, it would be interesting to inquire whether an acquired character has been transmitted or natural selection has eliminated the whiter descendants of the original stock. On the other hand, it has been mentioned already that the negro at birth is lighter in colour than his parents; this would suggest that the ancestors of the negro race were not so dark as their descendants.

Examples of the use of pigment for the protective resemblance of animals to the general colour of their environment are very numerous among both the invertebrates and vertebrates. Only a few examples need be given here. The colour of the fur of a rabbit is so similar to that of a lump of brown earth that the animal often escapes detection as long as it remains motionless. In some mammals the colour of the fur becomes white in the winter, when the ground is covered with snow: the stoat becomes white in the northern but not in the southern parts of England; the Arctic fox and the American hare have white winter coats. This seasonal change of colour appears to be determined by cold, for members of the same species of animal may not alter in colour in mild climates. Ross, the Arctic explorer, made an interesting experiment upon the influence of cold upon a lemming, which, living in the warm cabin of the ship, had retained its summer coat through the winter. The animal was placed in a cage on deck and exposed during the night to a temperature of 30° below zero; the next morning the fur on the cheeks and a patch on each shoulder had become perfectly white. At the end of a week the fur was entirely white, with the exception of a dark band on the back. From an examination of the skin it appeared that all the white parts of the fur were longer than the unchanged portions, and the ends of the fur were white only so far as they exceeded the dark fur in length, for when the white tips were cut off the appearance was that of the dark summer coat. This rapid change of colour has been attributed to the formation of bubbles in the hair, but it would be interesting to make experiments upon the subject in the light of the modern knowledge of pigments.

Among the vertebrate animals the most striking cases of variable protective resemblance between the colour of the skin and the prevailing tints of the environment are found in reptiles, amphibians, and fishes. A new feature, however, makes its appearance, a structure which is not found in the mammals and birds. Special cells known as chromatophores are present in the skin. These cells contain granules, which may be black, dark brown, or yellow, and possess the power of extending and retracting their protoplasmic processes. This power of movement in the pigment-cells enables the animal to respond to changes in the colour of its surroundings.

The capacity of the chameleon to change the colour of its skin is so notorious that the term "chameleon" has become a byeword. It is also well known that the frog and the trout can adapt the colour of their skins to that of their surroundings. On exposure to light the pigment-cells retract their processes and the skin becomes lighter in colour. In the frog there are melanophores—cells with a brownish-black pigment; other cells with white granules which produce interference effects in light and cells containing a yellow fat or lipochrome. By these means an extensive range of colours can be produced; red, brown, yellow, green, and black are frequently seen.

The changes in colour produced by the movements of the chromatophores might be due to a direct effect of the light and colour of the surroundings upon the cells, or to an indirect effect through the influence of the nervous system. There is evidence to show that both means are employed. Dark trout have been observed in light streams and have attracted the special attention of anglers on account of this peculiarity; specimens have been caught and have been found to be blind owing to disease of the eyes. It has been shown by experiment that blind frogs, or frogs with their eyes covered with black material, cannot change their colour to correspond with that of their surroundings; they are dark except when they become excited in vain efforts to escape. Section of the sciatic nerve in the ordinary frog causes the corresponding limb to become dark, even when the animal is exposed to light. The nervous effect is, however, not a simple reflex action in which the optic nerve is the afferent pathway; it is more complex, for experiments show that light can influence the nervous system through other pathways.

The chromatophores are abundantly supplied with nerves and are maintained in a condition of tone by the nervous system. The chief centre for this tone is in the optic lobes, but subordinate ones appear to be present in other parts of the central nervous system. It is an interesting fact that the chromatophores which are found abundantly in internal organs and around the blood-vessels of the frog show a similar response to stimuli to that exhibited by the melanophores of the skin. It is therefore probable that the function of the chromatophores is not for protective resemblance alone; it may be that they act also as photo-receptive organs, and these produce sensory and metabolic responses in the organism. It has, indeed, been found that temperature apart from light will produce a change of colour—warmth a light effect, cold a dark effect. A frog kept in a dry box becomes light in colour even when it is placed in the dark. The larva of the salamander does not develop much pigment if it is kept in water in a white basin and in the light, and this applies not only to the pigment in the skin but also to that in the internal organs and the peritoneum.

Only one more piece of evidence will be given to prove the complexity of the problem of pigmentation. In many animals, especially birds, there are marked differences in the colour of the two sexes. This fact gives great support to Darwin's theory of sexual selection; the male as a rule possesses the brighter colours and takes the more active part in courtship. The relationship of the coloration to the development of the sexual organs is clear; young birds—the common chick, for example—show no difference in the colour of their down or feathers whether they be male or females. In this country the brilliant marriage plumage of the cock chaffinch is well known. The development of the sexual colours is altered if the genital glands are removed by operation or disease; a capon becomes more like a hen, and the hen with atrophied ovaries tends to resemble a cock in plumage, comb, and the growth of spurs. Hen pheasants affected by disease of the ovaries assume a plumage which is very similar to that of the cock bird. All these facts and many others show that the sexual glands produce in addition to the ova and spermatozoa, as the case may be, an internal secretion which alters profoundly the metabolism of the whole body. An equality between the sexes can be produced only by unsexing both.

(*To be continued.*)

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CURRENT LITERATURE.

PELLAGRA AND SOME OF ITS PROBLEMS. JAMES NEVINS HYDE, M.D. (*Amer. Journ. Med. Sci.*, January, 1910, No. 454.)

THE recent recognition of pellagra in the southern sections of the United States of America has, as readers of this Journal are well aware, caused renewed interest in the study of the disease, not merely amongst our colleagues in the United States, but in other countries where pellagra is prevalent. The effort being made both in the United States and by schools of medicine in the United Kingdom it is hoped will add to our knowledge of the ætiology of this serious affection, and in due course lead to efficient means for its treatment, and even to its suppression.

The opportunity has been taken by Dr. Hyde to write an exceedingly interesting and very complete account of pellagra, with special reference to its outbreak in the United States. This article gives first a historical account of the incidence of the disease in the southern European States, where it has long been prevalent. Its various symptoms affecting the nervous and gastro-intestinal systems are enumerated, and, as is to be expected, special note is made of the cutaneous manifestations of the disease, which are so striking and of so much interest on account of the side-lights which they throw on general cutaneous pathology. The very name given to the disease by the earlier Italian investigators indicates the prominence of the cutaneous manifestations.

Dr. Hyde's observations were made during the session of the International Pellagra Conference in Columbia, South Carolina, on November 3rd and 4th, 1909, but he has had the opportunity of observing cases of the disease nearer home, and gives the result of observations made at the Peoria State Hospital for the Insane, Bartonville, the Hospital for the Insane at Elgin, and the Asylum for the Insane, Cook County—all in the State of Illinois. We would refer our readers who are anxious to have by them a sketch of the symptoms of the disease to Dr. Hyde's article, which is not only well illustrated, but gives in very succinct form the more recent neurological and hæmatological investigations which have been carried out. The writer does not venture on any dogmatic opinion as to the exact causation of the malady, and does not even attempt to hold the balance between those who defend and those who attack the hypothesis that the disease is caused by the eating of badly preserved or badly ripened maize. In this respect Dr. Hyde has shown his usual prudence and sagacity, for the renewed observations may possibly afford to us more probable explanations of the origin of pellagra. He makes the suggestion, however, that the disease is not likely to assume such serious proportions in the United States as it has done amongst the poor and badly fed peasantry of northern Italy and other Mediterranean countries. He remarks that "it has been aptly said of the poor of America that they do not know what poverty is. Incredible as it may sound to those unfamiliar with the fact, a large number of the applicants to public charities, in the northern states at least, are food-poisoned by sheer glut. They are not even strangers to the gout." We note, however, that even in Illinois the Governor has thought it desirable to open a commission to report upon pellagra in the charitable institutions of the State, and we note with satisfaction, amongst other distinguished medical men nominated to serve on this commission, the names of Dr. Oliver Ormsby and Dr. Howard Ricketts, of Chicago.

Not the least important part of Dr. Hyde's article is the considerable recent bibliography which is appended.

J. G.

A SKIN-REACTION IN CARCINOMA FROM THE SUBCUTANEOUS INJECTION OF HUMAN RED BLOOD CELLS. Drs. ELSBERG, NEUHOF, and GEIST, of the Mount Sinai Hospital, New York. (*Amer. Journ. Med. Sci.*, February, 1910, No. 455.)

THESE members of the staff of the Mount Sinai Hospital give an interesting account of certain experiments they have made with the idea of obtaining diagnostic assistance in cases of carcinoma. Their investigation starts from the assumption that during the process of growth and destruction of malignant tumours substances are formed and set free which are poisonous to the red cells of the blood, and which may cause the anæmia and cachexia of malignant disease, and that some of these substances belong to the class of lysins. The knowledge that extracts of malignant tissue possess hæmolytic qualities has led to a good deal of investigation, and especially to the search for hæmolysins in the serum of animals and of human beings affected with malignant disease. Substances possessing hæmolytic properties no doubt exist in the blood of patients suffering from carcinoma, but they also exist in the blood of many other diseased individuals. These experiments as a rule have been carried out as test-tube reactions, the serum of the patient being added to stated quantities of suspensions of washed human red blood cells from normal individuals, the degree of hæmolysis being determined by the amount of colour appearing in the supernatant fluid after being kept a sufficient period in the thermostat. As a result of these reported observations it occurred to Dr. Elsberg that a local reaction might be obtained in patients suffering from malignant disease if red cells from a normal individual were injected under the skin. The serum of the patient is presumed to be hæmolytic, and the hæmoglobin and other materials set free by the hæmolytic action might cause a local change at the point of injection.

The technique is then described by means of which blood is obtained by aspirating one of the veins at the elbow of a normal healthy individual. The blood is then prepared so that approximately a 20 per cent. suspension of washed red blood cells is obtained. The observers found that the blood of animals whose cells were known to be resistant to hæmolysis by normal human serum give unsatisfactory results, and also that no advantage is to be obtained by using the mixed cells from several individuals. Five minims of the 20 per cent. suspension of red blood cells is then injected under the skin of the individual to be tested. The reaction, when it occurs, appears about five hours after the injection, and gradually increases in intensity until it has reached its height in six or eight hours. When fully developed the reaction appears as a somewhat irregular oval area with a well-defined margin, measuring from one to two, to three to five centimetres. The margin is often surrounded by a whitish areola. The colour of the lesion varies from a brownish-red to a maroon, with rarely a bluish tinge. The lesion is distinctly raised from the surrounding skin surface. At times this elevation is so slight that careful examination in good light is necessary to recognise it. The raised area has a slight boggy feeling, as if there were a subcutaneous exudation, and it is often somewhat tender. This lesion disappears in a few hours, leaving a flat yellowish or greenish discoloration resembling a slight bruise. The observers have given 684 injections to 442 patients, divided into four classes:

(1) Patients with undoubted carcinoma;
(2) Patients in whom the absence of malignant disease was certain;
(3) Cases of possible carcinoma;
(4) Cases of very advanced and miliary carcinoma.

Tabulated details of these patients and three coloured illustrations of the reaction are given.

It appears that general anæsthetics interfere seriously with the reaction, and the authors say that their experience is too small to permit of any statements as to the significance of positive reactions after the carcinoma has been apparently radically removed.

The conclusions of the authors are stated as follows:

"1. The subcutaneous injection of human red blood cells prepared in the manner we have described is, in certain individuals, followed by a characteristic and easily recognisable local skin-lesion or reaction at the site of the injection.

"2. The large majority of the patients (89·9 per cent.) in whom this skin-reaction was observed were suffering from carcinomatous disease.

"3. The large majority of the patients (94·3 per cent.) in whom no characteristic skin-lesion followed the injection were free from carcinoma."

J. G.

THE SKIN-ATROPHIES (ATROPHIA DIFFUSA, ANETODERMIA, ATROPHIA MACULOSA), AND THEIR RELATION TO SCLERODERMIA. Professor FINGER. (*Wien. med. Wochenschr.*, Nos. 2 and 3.)

FINGER divides all atrophic conditions of the skin into two groups:

(1) Firm atrophy of the skin, as seen in the last stages of Lupus erythematosus and sclerodermia. The skin is in cross-section reduced in size, thinned, fixed firmly to the underlying structures, stretched, smooth, shiny, and only with the greatest difficulty raised and thrown into folds—sclerodermia.

(2) Loose atrophy of the skin. The skin in cross-section is also very considerably reduced in size, but is not fixed to the underlying structures, lying loose, consequently is wrinkled, therefore easily raised and thrown into folds—anetodermia.

The latter group includes those atrophies which have occurred spontaneously, and forms the group under discussion. Taylor described the first case ("On a Rare Case of Idiopathic Localised or Partial Atrophy of the Skin," *Amer. Archiv of Derm.*, 1876, Bd. 2, S. 114). The next was a case of Buchwald's (*Vtljschr. f. Derm. u. Syph.*, 1883, S. 553), and up to the time when Róna gave a discourse on the subject before the Tenth German Dermatological Congress, Frankfurt, 1908, only seventy cases had been recorded.

The condition is commoner in women than men, usually starts about the beginning of the fortieth year, and many years elapse before it is fully developed.

The extremities are the sites of predilection, especially the lower.

It remains localised to dorsum of foot and lower part of leg, or spreads up to and above knee as far as Poupart's ligament, and outwards over the glutei. So in the upper extremity, starting on backs of fingers and hand, extending but seldom as far as the shoulder.

The extensor surfaces are invariably involved, usually leaving the bends of the elbows and knees free.

The palms of the hands and soles of the feet are usually free.

The disease begins with red, or bluish-red areas, the former, which are sharply circumscribed, becoming pale on pressure and covered with very fine scales. The latter are not sharply circumscribed. The red areas appear as an inflammatory erythema and the blue as a cyanosis.

The primary areas increase in size, become confluent, and around them fresh spots appear.

The first parts to be affected are either the backs of the hands or feet, and the elbows or knees.

The affection is frequently preceded by inflammatory changes occurring in the limbs.

Blaschko described a case commencing with œdema and cyanosis of the hands and feet.

Subjective symptoms are not marked; occasionally itching and burning sensations or boring pains in the limbs.

The clinical picture when the disease has reached its acme is characteristic.

The skin is dark red, bluish-red or brown-red, depending upon the absence or presence of pigment.

The colour increases in the lower limbs when the patient stands up.

The skin looks considerably thinned and transparent, so that the underlying veins, tendons, and nerves are to be easily seen.

The skin is wrinkled, as if there was too much to cover the tissues beneath.

The cutaneous and subcutaneous fat has disappeared, the skin is dry and non-elastic.

When the front of the leg is affected the skin is stretched, the surface shiny and covered with fine scales, the colour of the skin being yellowish-white and separated from the normal skin by a reddish-brown area—in short there is a strong resemblance to sclerodermia, being usually the diagnosis made.

The sweat function of the skin is lost, and also its capacity of giving a "goose-skin" appearance on spraying ether on it.

Pick's erythromelie and Neumann's Erythema paralyticum are undoubtedly commencing stages of idiopathic atrophy.

One must beware not to include under this disease the fine wrinkling which the epithelium will often have after a foregone œdema, etc., or cases of Xantho-erythrodermia perstans of Crocker. The idiopathic atrophy is peculiar in that the epithelium and the cutis are atrophic.

Another form of idiopathic atrophy is that described by Herxheimer and Hartmann under the name of "Acrodermatitis chronica atrophicans." It is an anetodermia which is not diffuse, but localised, and invariably preceded by severe inflammation.

Fifty cases have up to the present been described, and of these men are almost as frequently affected as women.

The commonest age for the disease to start is about forty.

The limbs are affected, but chiefly the upper.

Klingmüller described a case in which the nose and cheeks were involved, and Herxheimer and Hartmann in which the soles of the feet were implicated.

The affection begins with a soft infiltration of either a pale red, cinnabar, or bluish-red colour, resembling Erythema nodosum, but not so sharply circumscribed.

The elbows are first affected, and the infiltration extends as far down as the bone, so that the skin cannot be raised; then the backs of the hands, fingers, and ulnar side of the forearm become involved, in the form of regular lines extending from elbow to hand. In the lower limbs the corresponding parts are affected.

The disease is always symmetrical.

The red inflammatory swelling gradually becomes bluish or cyanotic, gradually sinks, the epidermis begins to get wrinkled, the infiltration disappears, so that both the epidermis and cutis become atrophic, bluish-red, and transparent.

The subjective symptoms may or may not be severe.

There is no doubt that this form of atrophy is very closely allied to the diffuse idiopathic form, since both forms not infrequently are present together.

Histology.—Epidermis is thinned; absence of papillæ and intra-papillary epidermic processes. The collagenous tissue is atrophic, in the upper layers of the cutis swollen, and having lost the bundle-like arrangement.

The elastic fibres have almost completely disappeared.

The blood-vessels are dilated and capillaries increased. In the connective tissue are collections of mononuclear cells with a few plasma-cells arranged perivascularly. The hair-follicles, sebaceous and sweat-glands are atrophic, and there is no subcutaneous fat.

Whether the idiopathic atrophy be diffuse or localised the histological appearance is the same; both show signs of inflammation, both are undoubtedly one and the same condition.

The ætiology is not clear, but there seems to be some relationship between the disease and the weather. A similar condition, both clinically and histologically, is seen in cases of X-ray dermatitis. That the weather has an influence in producing skin-atrophy is shown by cases of Xeroderma pigmentosum and "sailor's skin."

Atrophia maculosa cutis, also an anetodermia, characterised by circumscribed atrophies of the skin, round or oval, varying in size from a hazel-nut to a penny.

It begins with a tumour over which the skin is wrinkled; the swelling feels quite soft and empty, as if there was a sack filled with fat.

The histology is identical with the other two forms already described.

The swelling ultimately disappears, leaving behind an atrophic patch.

Finger regards these three types of cases, as above described, as having nothing to do with cases of sclerodermia or morphœa.

The paper ends with the following classification:

A. Anetodermia.—Dermatitis ending in a loose atrophy.
- (*a*) Anetodermia idiopathica diffusa progressiva.
- (*b*) Acrodermatitis atrophicans.
- (*c*) Anetodermia maculosa.
- (*d*) Weather atrophies.
- (*e*) Senile atrophy.

B. Dermatitis ending in a firm atrophy.
- (*a*) Morphœa } inflammatory nature questionable.
- (*b*) Sclerodermia }
- (*c*) Atypical Lupus erythematosus.
- (*d*) Lupus erythematosus.

J. McD.

Reference.—"The condition of the urine in diseases of the skin": Von Polano, in a thesis (*Doktordissertation*, Leyden, 1909), describes his results of an examination of the urine of 200 skin cases, regarding the quantity passed in the twenty-four hours, specific gravity, total acidity, amount of chlorides, phosphates, indican, and nitrogen. Polano found that in almost every case of pruritus the urine was dilute and poor in phosphates. This explains the great value obtained by prescribing phosphates in cases of generalised itching.

In psoriasis and chronic eczema he found oliguria, increased specific gravity, hyperacidity, hyperchloruria, and increased nitrogen co-efficient. Therefore a vegetarian diet is indicated in these cases.

In acne rosacea and urticaria there was a marked increase in the excretion of indican, ascertainable in 50 per cent. of cases.

Indicanuria was not present in Prurigo Hebra as some observers had hitherto maintained. Albuminuria was only present in 2 per cent. of the cases.—J. McD.

ON IDIOPATHIC LEUCOPLAKIA OF THE MUCOUS MEMBRANES, WITH ESPECIAL REFERENCE TO LEUCOPLAKIA PENIS. Pflanz. (*Derm. Zeitschr.*, xvi, November, 1909, p. 710.)

Leucoplakia penis is a condition of some rarity, and in reporting two cases the author of the present communication takes the opportunity to make some observations on the disease as it occurs in other situations. Both the cases here described were in patients who were the subjects of phimosis to a marked degree, and who had suffered severely from pruritus of the part affected. In one carcinomatous degeneration had set in, which necessitated amputation of the penis; in the other curetting and the use of the thermo-cautery were sufficient to remove the diseased tissue. In the latter instance there was distinct evidence of old syphilitic infection, but there was no suspicion of this in the more serious case. Discussing the case Pflanz holds (and in this he is in agreement with Kraus and Fuchs) that the only necessary factor to determine the onset of Leucoplakia penis is mechanical irritation, although he is ready to admit that syphilis may be a predisposing cause. As regards the analogy existing between this condition and the correspondingly named Leucoplakia vulvæ or vaginæ, he is of opinion that they are both examples of exactly the same pathological process; the greater frequency of Leucoplakia vaginæ he ascribes to the greater delicacy and vulnerability of the vaginal mucous membrane, and the absence of sclerosis to the fact that in the vaginal mucous membrane the horny and elastic layers are almost entirely absent. The feature common to the two aspects of the condition is the lengthening and shrivelling of the papillæ. As to the condition which is described under the name " Kraurosis vulvæ," the author considers that a more advanced stage of the same pathological process. It must also be noted that, as in Leucoplakia penis, so in the corresponding condition of the female genital organs, carcinomatous degeneration is well recognised to occur, which, indeed, brings the disease into line with the far more frequently observed leucoplakia of the buccal mucous membranes. The only satisfactory treatment is surgical. H. D.

TRICHOPHYTON OF THE SCALP IN ROUMANIA (TRICHOPHYTON VIOLACEUM). Nicolau. (*Ann. de Derm. et de Syph.*, November, 1909, p. 609.)

This paper is based on a study of forty-five cases of trichophyton of the scalp observed in the region including Bucharest. Clinical symptoms were: (1) Multiplicity of the area affected; (2) naked-eye appearances of the diseased hair—(*a*) black-dot type in thirty-eight out of forty-five cases, (*b*) acuminate ones surrounding the hair-follicle, from which protruded a diseased hair, (*c*) hairs longer than usual (2–4 mm), and powdery like the hairs of microsporon; (3) inflammation of the area affected, which was reddened and raised, but never showing any suppuration—the trichophyton thus described is not therefore, probably, itself pyogenic; (4) rarity of involvement of the smooth skin (five in forty-five cases). The infectivity of this organism seemed less than that of the Parisian variety. In no case was any definite animal origin demonstrated.

Cultures in all the forty-five cases proved to be of the violet type (Trichophyton violaceum, Sabouraud). This type is common in Italy, and is responsible for the majority of ringworm in that country, but seems common nowhere else. Mibelli inspected the author's cultures in some cases and pronounced them to be identical with that observed in Parma. Three types of pleomorphism in culture were noted:

(1) A plane form, with flat, smooth surface, whitish or greyish, looking rather like candle-grease.

(2) A cerebriform type resembling favus.

(3) A flock-like culture with fine, short, aërial prolongations.

Methods of fructification were also examined, and it was ascertained that this variety did not altogether obey the conditions of any type hitherto separated. The characteristic method was by endoconidia. The paper enters into great detail on this point, and is well illustrated with figures showing fructification.

Sections of the skin with diseased hairs *in situ* were also obtained. It was demonstrated that in the portion of the hair incurved and included in the stratum corneum, there were mycelial threads and spores; the spores in the portions of the hair which were intra-follicular were confined to the interior of the hair, that is, were strictly endothrix. Only in the earliest stages of invasion of the hair were mycelial threads seen outside the hair, and these apparently entered the hair finally and remained enclosed by the external epithelial sheath.

Attempts at inoculation of cultures and fragments of diseased hair into guinea-pigs remained unsuccessful. E. G. L.

BILHARZIOSIS OF THE ANUS. F. C. MADDEN. (*Journ. of Trop. Med.*, December 15th, 1909, p. 370.)

IN a short paper on this subject the writer describes and depicts an unusual localisation of bilharzial infection in two cases where the region affected was the perinæum. Around the anus large papillomatous masses occurred, somewhat suggesting Granuloma tropicum pudendi. These consisted of dense fibrous tissue covered with hypertrophied epithelium, and extended forward from the anus to the scrotum. In both cases the mass was completely removed by cutting freely beyond it into the ischio-rectal fossæ on either side, and then dividing the rectal canal well above the sphincters and the limits of the mass.

J. M. H. M.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

ERYTHEMAS, INFLAMMATIONS, ETC.

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A CASE OF CHRONIC ECZEMA FOLLOWED BY FATAL GANGRENE.

By G. H. LANCASHIRE, M.D.,
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E. W—, aged 54 years, a married woman, first attended the Out-Patient Department of the Manchester and Salford Hospital for Skin-Diseases in October, 1908. She was suffering from dermatitis of the neck, aggravated by the use of a much advertised patent remedy. A fortnight later an acute seborrhoic eczema broke out in the groins. This was for a time slightly pustular in character, the skin being throughout the whole complaint a favourable ground for pus-organisms. The general health seemed good, and the urine was normal. The dermatitis in the neck yielded to lead lotion, but in the groins the affection proved more obstinate, and was soon followed by eczema round the vulva. In May, 1909, there was acute eczema of the whole cruro-genital region, and absolute rest was ordered. There was at this time obstinate seborrhœa of the scalp. The eczema continued with occasional improvement and exacerbations until October, 1909, when the arms and legs became slightly affected. In November there was an impetiginous eruption on the face, and in December the cruro-genital eczema had again become so acute that the patient was taken inside the hospital.

On admission (December 21st, 1909) there was an acute weeping eczema of the cruro-genital region extending in front over the hypogastrium towards the umbilicus, and on the inner aspect of the thighs in the upper third. On the face, neck, and chest there was a subacute seborrhoic dermatitis, and the ears were covered with impetiginous crusts. There had been a long-standing aural discharge.

The general condition of the patient on admission was good. She was well nourished, and did not appear to have lost strength by her prolonged illness. The cruro-genital region was acutely painful.

The urine was again examined on admission, but presented no abnormality beyond a thick deposit of urates. The microscope showed the presence of oxalates also. No evidence could be found of organic disease anywhere.

A few days after admission the eczema had disappeared from the upper part of the body. In the cruro-genital region, however, it remained obstinate, though less acute and much less painful than before. On December 31st the patient complained of nausea and vomited a few times; she had also an acute attack of diarrhœa. The temperature was 99·4° F. The cruro-genital eczema was now very acute, and the surface bathed in sero-purulent discharge of offensive odour, which antiseptic dressings did but little to mitigate. Next day over the sacrum small superficial ulcers the size of a lentil appeared, and the temperature began to rise in the evenings to 101° or 102° F. On January 4th the abdomen and thighs presented a remarkable appearance. The whole of the raw surface, which was now of a deep red colour, was picked out by clean-cut circular ulcerations the size of a lentil, which looked as though they had been deeply punched out of the skin. Each little ulcer was filled with yellowish pus, and the whole surface was studded with these necrotic foci. In a day or two adjoining ulcers began to coalesce, forming little troughs in the skin, while later on their bases dried up into blackish scabs, some of which towards the end were thrown off and replaced by granulation tissue. The general condition of the patient became very grave when the ulceration appeared, a typical septicæmic temperature developed, and the pulse ran more and more rapidly and became feebler by degrees. A day or two before death the border of the diseased skin became sharply defined with a black ribbon-like scab of dry gangrene; beyond this, on the healthy area, was a faint inflammatory blush. In the last day or two a few isolated small discs of ulceration appeared on the healthy skin adjoining the diseased area; these rapidly became gangrenous and scabbed. The temperature became subnormal three days before death, the patient dying comatose on the 14th. The photograph, taken a few hours after death, shows the large necrotic area covering the thighs and abdomen. Treatment while in hospital consisted in the first instance of endeavours by means of soothing and antiseptic lotions (chiefly compound lead lotion with cresol and carbolised linimentum calcis) to control the violent inflammation and render the part less septic. Dressings were applied constantly to all parts. Despite this, the course of events pointed to an acute infective process while under careful hospital treatment, its infective nature being clinically indicated by a gradual spread of the ulceration from focus to focus, starting in the sacral region and invading the whole of the eczematous ground in stages. The appearance in the later stages of isolated foci on the healthy skin higher up the abdomen was also very significant. Up to a few days before death there seemed a possibility of recovery could the patient's strength be maintained, and to this end our house-surgeon, Dr. Boyd, devoted himself assiduously, trying transfusion and every means we could think of. The appearance of some of the parts which had been attacked earlier by the necrotic process was encouraging, since here and there could be seen places where the necrotic mass had sloughed away, leaving healthy-looking granulations beneath. The toxin absorption, however, proved too much for the patient's powers.

Dr. Arthur Sellers, of the Manchester University Public Health Laboratory, kindly undertook an investigation of the chief organs, which were despatched to him in sterilised vessels a few hours after death. Subjoined is his report.

This case appears to present features which are fortunately rare. We have at first a healthy-looking woman, well nourished, and free from organic disease, suffering from an intractable eczema. We have evidence throughout of feeble resistance on the part of the skin to germ-invasion: this is shown by the chronicity of the seborrhoic eczema and by the occasional flourishing of pus organisms. Finally we have, while the case is in hospital, and despite careful antiseptic dressings, an acute infective process attacking the already damaged eczematous tissues. The question arises: are we justified, on the strength of Dr. Sellers' report, in attributing this infective process to the *Bacillus pyocyaneus?* Possibly this is a case of auto-inoculation from the bowel. In many respects the clinical features corresponded to those described by Crocker in *Dermatitis gangrænosa infantum*, and it will be recalled with interest that in this disease also several investigators (Ehlers, Hirschmann, and Kreibich) point to the *Bacillus pyocyaneus* as the pathogenic germ.

Report by Arthur Sellers, M.D., Assistant in Public Health Laboratory, University of Manchester.

Portions of skin, spleen, liver, kidney, lung and blood from the heart were examined at the Public Health Laboratory, University of Manchester.

Part of the material was hardened in formalin and alcohol, and sections cut either by the celloidin or paraffin method. Some sections were stained by hæmatin and rubin, others by Gram, Gram-Weigert, carbol-thionin, and Loeffler's blue.

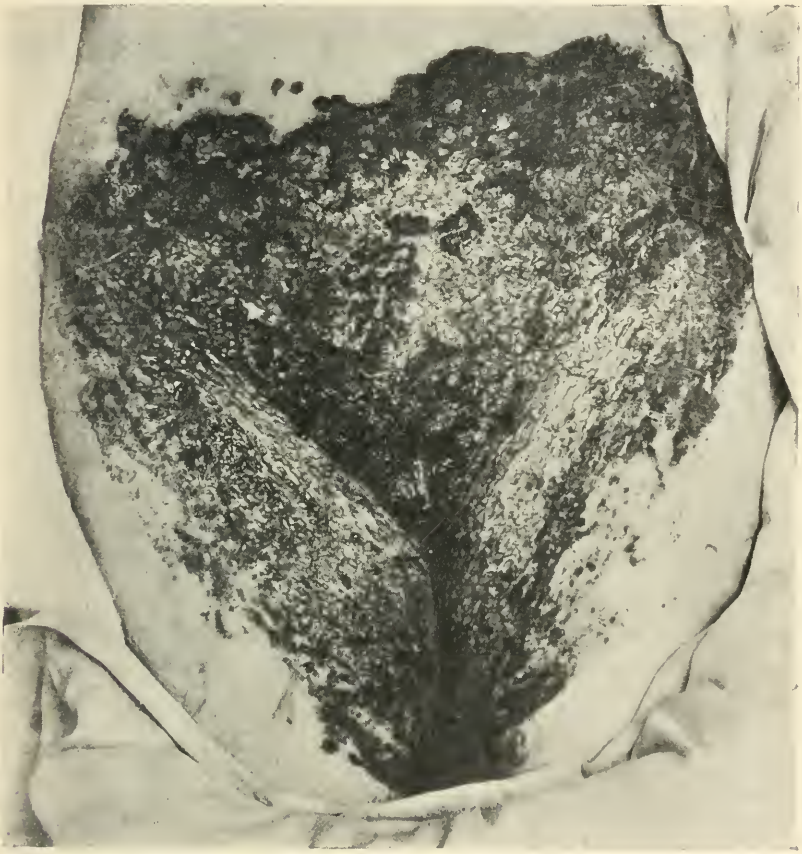
On microscopical examination the lesions in the skin were those of extensive gangrene and destruction, involving, in many places, the whole thickness of the skin, and extending for a depth of a few millimètres into the subcutaneous tissue. The superficial structures were replaced by a fibrinous exudation, containing a few leucocytes and fragments of necrosed tissue.

The subcutaneous tissue was œdematous and congested, and in most places there was a fairly definite zone of leucocytes delimiting the gangrenous tissues resting on it.

Bacteria were found to be present in enormous numbers. They were most abundant on the surface of the exudation, where they formed large clumps. They were much less numerous in the deeper parts, and none could be demonstrated in the congested subcutaneous tissue. Both cocci and small bacilli could be seen, the cocci apparently predominating. The spleen was congested. The liver was slightly fibrous, and here and there, in the interlobular connective tissue, a few small patches of small-celled infiltration were present. The hepatic cells, more especially those of the portal zone, showed some cloudy swelling and vacuolation. Broncho-pneumonic changes were present in the lung, and there was a slight increase in the quantity of fibrous tissue of the kidney.

Many sections of the spleen, kidney, and liver were searched for bacteria, but none could be demonstrated microscopically.

Cultures were made from the skin, spleen, liver, kidney, and blood. The media used were peptone bouillon, agar, and Loeffler's serum for aërobic incubation, and also Loèffler's serum, glucose agar, and glucose bouillon for anaërobic incubation. Two organisms were found—the *Staphylococcus pyogenes aureus* and the *Bacillus pyocyaneus*. They were extremely abundant in the skin, fairly numerous in the spleen, and a few colonies were got from the liver and kidney. No growth was obtained from the blood, but only a small quantity was available for examination—hardly as much as half a cubic centimetre. In all the cultures the two organisms appeared present in about equal number.



To illustrate Dr. Lancashire's case of eczema followed by fatal gangrene.

The staphylococcus showed the characteristic morphological and cultural characters of the *Staphylococcus pyogenes aureus.* Its virulence was not tested. The bacillus had also the characters of a typical *Bacillus pyocyaneus.* The amount and kind of the pigments were found to vary considerably under different conditions.

One cubic centimetre of a forty-eight hours old peptone bouillon culture was injected subcutaneously in the left hind leg of a rabbit. The following day the animal seemed well and there was no swelling at the seat of inoculation. The animal remained well and did not lose weight.

A guinea-pig was inoculated subcutaneously in the left hind leg with 1 c.c. of the same culture. The following morning it was found dead. There was an extensive œdematous swelling extending from the thigh over the lower half of the skin of the abdomen. No other lesions were found, with the exception of some congestion of the internal viscera.

The *Bacillus pyocyaneus* was found microscopically in enormous numbers in the exudation, and was recovered by cultures from the exudation, spleen, liver, and blood of the heart.

Two guinea-pigs were inoculated subcutaneously in the left hind leg with portions of the gangrenous skin of the patient about the size of a split-pea. Both animals remained well, and neither of them showed either swelling or suppuration at the seat of inoculation. One of them was found dead ten days after inoculation, but there were no lesions, no loss of weight, and no growth was obtained in cultures from the spleen, liver, and blood. It therefore does not seem probable that death was due to the inoculation.

In the present case death was apparently due to a toxæmic septicæmia caused by a mixed infection. The evidence available does not seem sufficiently strong to prove that the chief organism implicated was the *Bacillus pyocyaneus,* though this is a possible interpretation of the facts.

The patient died about 5 a.m. on January 14th. The post-mortem was made on the afternoon of the same day. The portions of the organs were placed in separate sterilised tins, and cultures were prepared at the Laboratory shortly after their arrival. It does not seem unreasonable to conclude that results of the cultural tests could be relied upon as showing a septicæmic condition and not merely an accidental contamination or post-mortem invasion.

The clinical history of the case suggests a possible source of infection. The patient, on admission, had a purulent ear discharge. Unfortunately, none of this was examined bacteriologically.

THE TREATMENT OF SYPHILIS BY INSOLUBLE INJECTIONS OF MERCURY.

By CAPTAIN A. D. JAMESON, R.A.M.C.,
Specialist in Venereal Diseases to the Aldershot Command.

Several of the recent text-books, in dealing with the treatment of syphilis by intra-muscular injections of metallic mercury, draw a most appalling picture of the perils and dangers that beset the path of those who are rash enough to adopt this line of treatment. As I firmly believe this treatment of syphilis to be the most efficient we at present possess, I shall endeavour to show that these dangers are very much exaggerated. The dangers attributed to it are: Firstly, embolism from the point of the needle entering a vein, and the mercurial cream being carried into the circulation and causing a pulmonary embolism. Secondly, poisoning from too large a dose being administered to a susceptible patient, and from being powerless to prevent further absorption after symptoms of poisoning have supervened. It is also stated that the mercury may accumulate, no absorption taking place for some time, and then be absorbed rapidly with disastrous consequences. Thirdly, liability to abscess. Fourthly, severe pain at site of injection.

Treatment by intra-muscular injection is now carried out on a very large scale in the Army, and for the last six or seven years there have been no accidents. It is impossible to say how many cases have been treated in this way, but when it is remembered that there are annually between five and six thousand admissions to hospital for syphilis among British troops, and that it is now the most popular method of treatment in the Service, some idea may be formed of the extent to which it is practised. In the early days several fatal cases of mercurial poisoning occurred at a certain station in India, owing to a compounder of medicine making the mistake of measuring mercury by volume instead of by weight when making up a cream.

For the last two and a half years I have held the appointment of Specialist in Venereal Diseases to the Aldershot Command; during that time no other form of treatment has been employed, and over 15,000 injections have been given, and I have not yet seen any serious consequences. Before my appointment to Aldershot I was employed for eighteen months in the venereal wards at Malta and Woolwich, and had a similar experience. As regards embolism or mercurial poisoning, there were no cases whatever, and the most that ever occurred with the doses used at present was a slight "touching of the gums."

There were no cases of abscess worthy of the name. On two occasions small collections of pus resembling a boil and quite superficial formed at the site of injection, caused most probably by some cream finding its way back along the needle track to the subcutaneous tissue. Once when a man was receiving an injection the needle was found to have entered a small cavity, and seven minims of pus were withdrawn; there were no further symptoms, and the patient left the hospital a week later quite well.

A small proportion of men complained that they sometimes experienced pain and stiffness two days after an injection. They stated that as a rule they had no trouble whatever, but that one particular injection was painful. The pain, however, was not severe, as it never prevented them from doing their duty, which fact speaks for itself, as the temptation to shirk a fatiguing route march is great. The soldiers themselves seem to prefer this form of treatment, and volunteer to continue on it after two years, and many reservists attend for treatment voluntarily if they are discharged from the Army before finishing their course.

It may be urged that the soldier is a long-suffering individual, who will put up with anything rather than complain, but this certainly does not apply to officers, and they invariably state that the pain is trivial.

The scheme of treatment now recommended by the Army Medical Authorities at the War Office is as follows:

A course of nine weekly injections of gr. j of mercury; five weeks' interval; inspection only. Six fortnightly injections; three months' interval; inspection only. Six fortnightly injections; five months' interval; inspection only. Six monthly injections; inspection for one year.

The urine should be examined for albumen every week during the first course, or, better, before every injection, and if it is present some other form of treatment, such as inunction, should be substituted.

Whenever the patient attends he should be weighed; serious loss of weight is a signal for caution.

The technique employed at Aldershot is as follows:

The injections are made into the upper third of the buttock, each buttock being chosen alternately. The skin is sterilised by painting a spot the size of half-a-crown with tincture of iodine. An all-glass syringe fitted with platinum iridium needles is employed, and is sterilised in boiling oil; the needles are re-sterilised after each injection and cooled in methylated spirit, which does not splutter when the needle is again placed in the oil.

A cream of the following composition is specially prepared by Burroughs and Wellcome, and is a very excellent preparation:

Metallic mercury	10 gr.
Equal parts of creasote and camphoric acid . .	20 c.c.
Palmatin	ad 100 c.c.

Ten minims of this cream, which was introduced by Colonel Lambkin, R.A.M.C., contain 1 gr. of metallic mercury.

Another cream, containing ½ gr. of calomel in ten minims, is also used in certain cases, and is equally painless.

The syringe is filled with cream and the needle adjusted, any oil removed with sterile gauze; the point of the needle is made to just touch the skin, and then suddenly inserted. If the needle is inserted in any other way the point is soon turned; the patient should always be taken by surprise, and not given time to contract his muscles. The piston of the syringe should be withdrawn a little; if blood wells up into the barrel, a vein has been entered, and the needle must be withdrawn and reintroduced. After injecting, withdraw the needle rapidly, and press firmly on the point of insertion to prevent cream finding its way back along the needle track to the subcutaneous tissue, where it would cause inflammation.

The efficiency of any form of anti-syphilitic treatment can only be judged by recording a large number of cases which have been through a thorough course of treatment, and have been kept under observation for a number of years, and by noting any of the later manifestations of disease that may occur. In the Army, owing to the conditions of service, it is very difficult to keep men under observation for a sufficiently long period, as they are transferred to the reserve and lost sight of; but I have collected 500 cases, all of which have been inspected at frequent intervals for from one to four years, the average being twenty months.

Treatment was commenced in every case within four months of the appearance of the primary sore, and only cases that subsequently developed definite secondary symptoms are included.

These cases may be taken as a fair sample, as they were treated by different medical officers in various parts of the world, and not selected in any way.

The following is a list of symptoms observed:

Symptoms.	Number of cases.	Percentage.
Nodular syphilides	15	3
Gummata of integument	8	1·6
Gummata of tongue	1	0·2
Circinate syphilides	7	1·4
Palmar syphilides	2	0·4
Syphilitic alopecia	40	8
Onychia	*Nil*	—
Iritis	12	2·4
Periostitis	6	1·2
Orchitis	2	0·4
Necrosis of bone	2	0·4
Glossitis, including chronic leucoplasia	13	2·6
Perforation of soft palate	5	1
Synovitis	1	0·2

There were no eye symptoms such as choroiditis, strabismus, unequal pupils, or Argyll-Robertson pupil, no lesions of the nervous system, or any visceral complications.

THE FUNCTIONS OF THE SKIN.

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LECTURE III.

THE secretions and the excretions of the skin must be considered together, for it is impossible to draw any hard-and-fast distinction between them. A secretion is a product which is of further use to the organism; an excretion is a waste product, but it may be that the waste product in the process of discharge is of some indirect use. A further difficulty is a practical one due to the minute size of the cutaneous glands and their close association; the products of the different kinds of glands cannot be separated readily from one another or even from the products of the epidermic cells which surround their ducts.

An examination of the minute structure of the skin shows that there are two kinds of glands—the sweat-glands and the sebaceous glands.

The distribution of each varies in different areas of the skin. As a general rule there are no sebaceous glands in the hairless parts of the body, as for example, the palm of the hand and the sole of the foot, where the sweat-glands are most numerous. The application of the knowledge of this difference renders possible the collection of small quantities of sweat free from sebaceous matter, but not free from the products of the epidermic cells. On the other hand, there are, in some animals, special developments of the sebaceous glands which enable the investigator to collect sufficient pure sebaceous matter for analysis.

The sweat-glands exhibit an interesting difference in their distribution and development in different animals. In man and the horse the sweat-glands are abundant and well developed in the various parts of the skin, and it is common knowledge that in both of these cases the discharge of sweat from the general surface of the body may be profuse. In the ox and pig the glands are especially developed in the snout, where big beads of sweat are constantly seen, but apart from that region a visible discharge of sweat is not observed. In the cat the sweat-glands are especially developed upon the hairless pads of the feet, and here the influence of the nervous system upon the secretion can be studied most readily. The dog sweats upon its nose and pads, but even when its temperature is raised by excessive exercise no visible sweating is seen upon the general surface of the body, although sweat-glands can be found by a microscopic examination.

These and other facts in comparative physiology suggest that the functions of the sweat-glands are complex. The name of these glands has to a considerable extent obscured the knowledge of the subject, for the term "sweat" is generally associated with the copious discharge of a watery secretion, the evaporation of which increases the loss of heat from the body. This difficulty was recognised by Koelliker, who, in his description of the glands, often avoids it by calling them "Knäueldrüsen" instead of "Schweissdrüsen."

No attempt need be made here to describe the minute structure of the sweat-glands, but attention may be drawn to several points of physiological interest. The glands are developed by downgrowths of the epiblastic layer, and these can be seen in the skin in the fifth month of fœtal life. In the fully developed gland there are three layers, epithelium, involuntary muscle, and fibrous tissue. The involuntary muscle-fibres lie directly under the epithelium, and this has given rise to some discussion, for muscle-fibres are, as a rule, developed from the mesoblast; Koelliker, however, maintains that in this case they arise from the epiblast.

The secretory surface of the glands is greatly increased by the coiling of the terminal portion of the tubule. In animals with the glands poorly developed there may be only a small sack-like depression, but in the snout of the pig or in the axilla of man a great development of surface has taken place in the manner just described. The coiled portion of the gland almost always lies in the subcutaneous tissue, and is surrounded and penetrated by a meshwork of capillary blood-vessels; these vessels are supplied by a special branch of the cutaneous artery, and are not connected with the general capillaries of the skin. The glands have secretory nerves, which can influence the discharge of sweat, apart from alterations in the supply of blood. This important fact will receive further consideration when the nervous control of sweating is discussed.

The distribution of the sweat-glands was studied by Krause in a number of sections of skin taken from different parts of the bodies of men and women. He gives the following table for the number of glands in a square inch of skin:

Forehead	1258
Cheeks	548
Neck, front and lateral surfaces	1303
Chest and abdomen	1136
Back of neck, back, and buttocks	417
Forearm, inner surface	1123
,, outer surface	1093
Hand, palm	2736
,, back	1490
Thigh, inner surface	576
,, outer surface	554
Leg, inner surface	576
Foot, sole	2685
,, back	924

An examination of the table shows that the glands are most numerous in the palm of the hand and the sole of the foot. These are the parts of the skin which are constantly in contact with external bodies, and are most concerned in tactile impressions. The difference between the front and the back of the hand or foot is very great, and confirms the view obtained from the study of the comparative development of the glands in different animals. These facts suggest that the function of the sweat-glands is something more complex than the discharge of a watery fluid to cool the body by evaporation. A question of function is one which requires physiological evidence, and cannot be settled by anatomical and histological details, however suggestive they may be. Experiments upon the living subject are necessary, and especially ones upon man, for he is the most suitable, owing to his naked skin and the great development of his sweat-glands.

In order to study the functions of the sweat-glands it is necessary to collect the products of their activity. It is not easy to collect sweat, notwithstanding the fact that a copious discharge can be readily produced by placing a man in a hot-air bath. The first difficulty is the presence in the sweat of substances arising from the sebaceous glands and products of degeneration from the superficial layers of the skin or of its appendages. The second difficulty is the transudation of water and other substances through the skin, for even when the sweat-glands are inactive in heat-stroke and in some stages of fevers, there is a loss of moisture from the congested skin.

The methods employed have varied according to the purpose of the investigation. In the collection of sweat for chemical analysis a rubber bag has been used to enclose a limb, or the subject has been confined with the exception of his head and neck in a hot-air bath. These methods are useless for the quantitative estimation of the secretion under ordinary conditions, for the air is stationary and soon becomes saturated with moisture, and in the case of a limb the estimation gives no exact basis for a calculation of the total secretion of the skin owing to the great local differences.

The chemical composition of the sweat is shown in the following table, which is a compilation by Charles from several analyses:

Water	98·88
Solids	1·12
Salts	0·57
Sodium chloride	0·22 to 0·33

Alkaline sulphates, phosphates, lactates, and potassium chloride	0·18
Fats, fatty acids and cholesterol	0·41
Epithelium	0·17
Urea	0·08

Sweat is a colourless, opalescent liquid with a saltish taste and a characteristic odour. It is the most watery of secretions, its specific gravity varying from 1001 to 1010. The reaction is acid in man, but in herbivorous animals it is alkaline. Some observers have maintained that the acidity of human sweat is due to admixture with the secretion of the sebaceous glands.

Sodium chloride is a constant constituent, and its presence has been used as a method of estimating the amount of sweat discharged from the body. The subject of the experiment is clothed with material washed free from chlorides, and then after sweating the amount of sodium chloride taken up by the clothes is determined. The sweat from the uncovered parts of the face and neck is estimated in a similar way from the chloride contained in the handkerchiefs used for wiping away the sweat.

There is a considerable want of agreement about the various other constituents which have been found in sweat. Fat, fatty acids, and cholesterol are present, and are probably discharged from the sweat-glands as well as from the sebaceous glands, for particles of fat can be seen under the microscope in the coiled tubule and the duct of the gland. This fact is of considerable importance, for it confirms the view that the function of the gland is complex.

Lactic acid is present, especially after exercise. Urea has been discovered by several observers, but others have failed to find it. In cases of renal insufficiency there seems to be no doubt that urea may be present in the sweat in considerable amount.

Upon the question whether the sweat is toxic there has been much discussion. It would appear that if it be taken from healthy men and sterilised it is not toxic; the toxicity of sweat in disease is outside the scope of these lectures.

The presence of protein in some analyses of sweat is probably due to admixture with epithelium from the skin or glands. The same criticism may apply to the protein found in the sweat of the horse, which readily forms a lather on this account.

It is now necessary to consider the quantitative estimations of the sweat discharged by man under different conditions, for without such data it is impossible to discuss the important part played by the evaporation of sweat in the regulation of the temperature of the body. It has already been stated that the enclosure of a limb, or even of the whole body with the exception of the head and neck, in a rubber bag is useless for this purpose; the conditions are absolutely abnormal, for the skin is in a confined quantity of air, which quickly becomes saturated with moisture. It is also necessary to remember that observations upon the naked body of men who have been accustomed from birth to artificial clothing will not give a true representation of the reaction to heat and cold.

The best method of investigation is that of a respiration chamber in which the subject sits, but breathes outside by means of tubes communicating with the external air. The chamber can be ventilated or warmed to different degrees, and the subject may be clothed or naked, may be at rest or perform muscular work. The amount of water and of sweat varies with all these factors, and may be estimated from the water evaporated or condensed in the chamber.

The air from the chamber is drawn through absorption flasks, which free it from moisture and carbon dioxide, and is then measured by a meter. In this way the discharge of water and carbon dioxide from the whole surface of the body can be estimated.

It is necessary, again, to insist that this method gives data for the total discharge of moisture and of carbon dioxide from the skin, not only for the quantities discharged by the sweat. We have to distinguish, if it be possible, between *perspiration,* a transudation of water through the skin, and *sweating,* an active outpouring of liquid from the sweat-glands. Some observers have maintained that only one process is concerned, and their view is reflected in the common use of the word " perspiration " in the sense of sweat. The experimental evidence, however, is against the view. A corpse gives off moisture, and so does an excised piece of skin, but it is unwise to rely upon evidence obtained under such unphysiological conditions; it is known, moreover, that the sweat-glands may be active even after the death of an animal. The most reliable evidence is that obtained from healthy men. The discharge of moisture from the skin of a man at rest and not exposed to a high temperature is proportional to the temperature;

it is greater if the air be dry and less if the air be stagnant; it is diminished if the surface of the skin be covered with fat. These are variations which would be expected in a transudation. Directly, however, the temperature of the air reaches a sufficient height a new process appears to come into play: beads of sweat appear, and there is a great increase in the discharge of carbon dioxide from the skin. This critical temperature for the active discharge of sweat is between 30° and 33° C.

The following table gives the results obtained by Willebrand for the discharge of water and carbon dioxide from the skin of a man sitting naked in a respiration chamber:

Temperature of air (Centigrade).	Water per hour.	Carbon dioxide per hour.
18·2°	13·19 grm.	—
20·4°	14·61 „	0·29 grm.
22·6°	16·66 „	0·21 „
24·6°	23·95 „	0·21 „
26·1°	27·31 „	0·43 „
27·0°	26·32 „	0·31 „
31·5°	34·05 „	0·29 „
33·5°	sweat	1·17 „
34·0°	„	1·35 „

The moisture given off when sweating began was not determined in this experiment, but there are data obtained by Schierbeck for a man under similar conditions.

Temperature of air (Centigrade).	Water per hour.	Carbon dioxide per hour.
29·8°	22·2 grm.	0·37 grm.
30·4°	27·8 „	0·40 „
31·5°	71·9 „	0·37 „
31·9°	50·3 „	0·35 „
32·8°	73·4 „	0·35 „
33·8°	82·6 „	0·87 „
35·4°	106·8 „	1·04 „
35·7°	107·0 „	0·90 „
38·4°	158·8 „	1·23 „

The results obtained by these two observers agree very well, and it will be noted that the discharge of carbon dioxide shows no relationship to the external temperature until the critical point, at which sweating begins, is reached; then there is a great increase in the amount of carbon dioxide—it becomes two to four times as great as before.

Wolpert has shown by similar experiments that covering the skin of a man with lanoline diminishes the discharge of moisture from his skin; for example, the discharge was 40 grm. per hour against 60 grm. at an external temperature of 25° C., and 45 against 90 at 28° C. When, however, the critical point was reached, the discharge of moisture from the greasy skin was as great or even greater than from the normal skin. The fat can diminish the loss of moisture from the epithelium of the skin, but cannot stop up the "pores," the orifices of the sweat-glands.

(*To be continued.*)

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Tuesday, May 31st, 1910, at 11, Chandos Street, Dr. T. COLCOTT FOX, President of the Section, in the Chair.

Dr. S. E. DORE showed a case of *Lupus vulgaris erythematoides.* The patient was a man, aged 73 years. The disease began on the back of his neck twenty years ago, but his face was not affected until the year 1899, after an attack of "erysipelas." The scalp was attacked soon after the face, and independently of it. The patient was shown at the February meeting of the Dermatological Society in London in 1904, when the area of distribution of the disease was practically the same as at the present time, affecting nearly the whole of the face and neck and the top of the head, with the exception of a narrow band of healthy skin extending across the forehead above the eyebrows. This peculiar distribution, together with the superficial character of the infiltration, made the resemblance to Lupus erythematosus a close one, but the presence of numerous patches showing a definite lupous deposit and scarring on the limbs and the slight ectropion—which has since become more apparent—of the lower eyelids, led to the diagnosis of Lupus vulgaris, and this was confirmed by microscopic examination. In addition to the skin-affection, the patient had had a parotid tumour, which was removed four years ago. Two years ago a small warty growth appeared on the back of the neck; this was excised and sections made, but there was no malignant change. It recurred a year later and was again excised, a small, ulcerative lesion now being present at the site of the scar. He also had a curious condition of the right wrist-joint, the nature of which was not quite clear, but there was much deformity and swelling externally, and the joint was shown to be disorganised by screen examination, the changes being compatible with tuberculosis.

The patient had attended Dr. Pringle's out-patient department at the Middlesex Hospital since 1904, and had considerably improved under treatment with X-rays and thyroid feeding. Much of the disease had disappeared, especially from the scalp, leaving the skin tense, smooth and shiny, and free from disease. On the face, and also in some parts of the scalp, collections of lupous nodules could still be seen.

Sir Malcolm Morris showed a case of *Lupus erythematosus almost exclusively limited to the scalp.* The patient was a woman, aged 29 years. The first thing she had noticed was a small bald patch on the top of her head eight years ago. This had been treated for ringworm by blistering and afterwards for eczema with various applications. The patch had gradually increased in size until nearly the whole scalp had become bald, only the hairs in the frontal region and a fringe round the sides of the head remaining. The nose had become affected about a year after the scalp, but the disease in this situation had not spread, and now presented a small red, atrophic patch affecting only the tip. In addition to the smooth white shiny appearance of the scalp there were numerous areas of active disease, chiefly at the periphery of the bald area, where there was in parts a well-defined festooned margin. Towards the anterior part of the scalp the follicles were especially picked out, each one being represented by a little brown dot, giving the surface a curious stippled appearance.

An interesting feature of the case was that the posterior cervical chain of glands was enlarged on both sides, and there were scars on the left side of the neck, resulting from an abscess which had been incised when she was nine years of age. There was no history of consumption in the family; the mother was living and healthy; the father died eleven years ago and had been a healthy man. Five sisters were living and well. A twin sister had white patches on the skin of her neck and chest, but none of the others had any affection of the skin. The patient looked weakly and anæmic, but said her health was good. She felt the cold very much, and in winter her fingers became red and swollen, especially at the tips. Her ears had never been affected.

The complication of enlarged glands with Lupus erythematosus was not uncommon, but it was unusual for the posterior cervical glands to be thus affected.

Sir Malcolm Morris and Dr. Wilfrid Fox showed a case of *Lupus erythematosus* in a seaman, aged 57 years. The eruption had started twenty years ago on the bridge of the nose and ears, and had spread slowly on to the cheeks. It followed a slight frost-bite, which was contracted off the east coast of North America in the course of his profession. The frost-bite never really healed, but passed gradually into this condition. The eruption, with long intervals in which it remained stationary, had steadily progressed during the whole time, and, although it varied in intensity, it had never vanished. The rash was of the "fixed" type and fairly evenly distributed over both cheeks; there was a patch involving the right eyebrow, which dated from four years ago. The ears were affected in the usual manner, but had been damaged by an accident, so that it was difficult to say how much of the destruction was due to the disease. The scalp was not affected, nor were any of the mucous membranes.

His past history gave no suggestion of tubercular disease in any form, nor had any relatives suffered from consumption. He admitted a chancre of doubtful nature thirty years ago, for which he was treated with mercury for two months, but which was accompanied by a bubo, and was not followed by either rash or sore throat. He occasionally suffers from slight rheumatic pains, but has never had acute rheumatism. There is no albumen present in his urine. The patient stated that change of climate, either extreme heat or cold, seemed to affect the eruption more than any other circumstance.

Sir MALCOLM MORRIS said he suggested that Dr. Wilfrid Fox should bring the case because of the atrophic condition of the ears. Sir Malcolm was in Germany in the winter of 1870–1, which was an intensely cold one. In the huts where he was with patients the thermometer was as low as 30° F. below zero. He had seen frost-bites with the whole of the ears gone and half the nose after exposure of only an hour. The scar left afterwards was much like the scar slowly produced by Lupus erythematosus. He had come across many young men who got a curious atrophic condition of the ears, which they attributed to football. He had cross-examined several of those men, and found that they got their ears torn and a fissure produced at the back. That healed up, but in another game it got torn again. Discussing Lupus erythematosus generally, he said it seemed that in the extensive chronic cases it was a toxæmia of some kind. All the patients were more or less out of health, having poor circulation, and being generally feeble. He always treated his patients with Lupus erythematosus on that hypothesis. He was certain that the change of treatment from his early days, when the methods were more violent, was an improvement. He saw a case a short time ago, which he had not seen for twenty years, which presented a white scar all over the face. On being asked what she had done in the meantime, she replied that she lived in Cornwall and could not afford to come to London, and therefore had had no treatment except using mild lotions. That it should have died out in that way was encouraging.

Dr. J. H. Sequeira showed (1) a case of *Lupus erythematosus with epithelioma.* The patient, a single woman, aged 27 years, has suffered from Lupus erythematosus for the past nine years. There was a history of consumption on both sides of her family, and her father had died from the disease. There had been no evidence of tuberculosis in the patient. Her opsonic index, taken several times, had always been about normal. There had been no reaction to tuberculin on two occasions. The patient enjoyed good health until 1901, when she became easily tired and drowsy. The eruption first appeared on the lobules of the ears, but spread rapidly over the face. She had been under treatment at two special hospitals before she came to the London Hospital in 1902. There were then extensive areas of the skin affected, involving the whole of the face, the backs of the hands, and lower parts of the forearms, and the fronts of the legs and the feet. There was also an X-ray burn upon the upper part of the chest. The patient had attended the London Hospital at somewhat irregular intervals since. She had been frequently in the wards, and had also spent long periods at the Margate Sea Bathing Infirmary. There had been no real improvement. Salicin internally appeared to suit her best; quinine, arsenic, and general tonic treatment was tried without benefit. At one period she had prolonged treatment by sour milk, as there was dyspepsia. The local treatment had been, at different times, the Finsen light, regular painting with tinct. iodi, the application of salicylic plasters, a few treatments with solid carbonic acid, and most of these methods temporarily improved the areas treated. In the winter she suffered a great deal, and could rarely come out of the house, the feet and the hands and the lower part of the face breaking down into superficial excoriations, rarely actual ulcers, but exceedingly painful and requiring constant dressing.

In January, 1910, an epithelioma developed between two visits, three weeks apart. The tumour was situated above the ramus of the jaw, at the level of the angle of the mouth, and about an inch distant from the right commissure. The tumour was excised, and sections proved it to be epitheliomatous. Recurrence *in sitû* occurred in four weeks, and spread rapidly. A surgeon was asked to see her, but he thought it impossible to make a complete removal. So far there had been no infection of the lymphatic glands.

(2) A case of *Lupus erythematosus of eleven years' duration localised to the scalp*. The patient was a married woman, aged 35 years. She had two healthy children. There was no history of tuberculosis in the family, and no evidence of such in the patient. One day before the appearance of the skin-affection, *i.e.* twelve years ago, she had appendicitis, for which an operation was performed. There were no details as to the nature of the appendix lesion. The cutaneous eruption began as a small spot on the scalp. This gradually increased, and a second area was attacked, and finally, a small patch appeared behind the right ear above the root of the mastoid process. The case had been watched by Dr. Sequeira for several years, but at no time had the face or any other part been affected.

(3) A case of *Lupus erythematosus with sclerodactyly*. The patient, a married woman, aged 43 years, had had tuberculous abscesses in the glands of the neck, and there were extensive scars left by the operations necessary to their treatment. The patient's mother died of phthisis. The Lupus erythematosus developed fourteen years ago and had never cleared up. The hands had always been severely affected, and there were extensive chilblain-like areas on the dorsum. The little finger of the left hand was thin and tapering, like an elongated radish, and its surface was pink, smooth, and shining; it could neither be flexed nor extended. The terminal parts of the third and fourth fingers of the same hand were slightly affected. A less marked condition was present on the fingers of the other hand. There had been no recurrent asphyxia and no hæmoglobinuria.

CURRENT LITERATURE.

SOME OBSERVATIONS OF THE RESULT OF THE WASSERMANN TEST IN SCLERODERMA. Henry H. Whitehouse. (*Journ. of Cut. Dis.*, December, 1909.)

À propos of the ætiology of a case of scleroderma shown to the New York Dermatological Society, Lustgarten remarked on the clinical resemblance of the commencing sclerodactylia to certain forms of Raynaud's symptom-complex. He thought at least a number of the latter cases were due to an obliterating process of many small arteries and veins of a specific nature. Seeing that in the pathology of scleroderma blood-vessel lesions were very much in evidence, he recommended a Wassermann test in the case, and the result was positive.

Whitehouse forthwith investigated four cases of diffuse symmetrical scleroderma and two unilateral, band-like, circumscribed cases on similar lines. Of the diffuse cases two gave a strongly positive reaction, one was faintly positive, one negative, and the reaction was absent in the two circumscribed cases.

The author then discusses the significance of the Wassermann reaction, and puts the question whether scleroderma is one of those few diseases other than syphilis which sometimes react positively to this test, or whether syphilis acts as a cause of scleroderma. Whitehouse concludes that if the vascular changes are primarily the seat of the trouble in scleroderma, and if the positive reaction of Wassermann's test be confirmed, syphilis may be found to be an ætiological factor in a certain proportion of cases.

In the discussion following the reading of the paper, Hartzell said that syphilised patients might have scleroderma as well as psoriasis or eczema. Dr. Howard Fox, in three cases of localised scleroderma, had only a negative reaction.

T. C. F.

THE LICHEN GROUP OF SKIN-DISEASE; A HISTOLOGICAL STUDY. PROF. J. A. FORDYCE. (*Journ. of Cut. Dis.*, February, 1910. Illustrated.)

THE study of a series of sections ranging from the minutest pin's-head lesion to those showing considerable hypertrophy of all the layers of the skin has convinced Fordyce of the constancy and definiteness of the changes seen, the differences met with being those of degree with exaggeration of one or all the factors concerned, or due to anatomical localisation of the papule.

The process, characterised at first by dilatation of vessels and lymph-spaces, probably begins in the papillary bodies, and later extends to the sub-papillary vessels, or may simultaneously attack both layers when the action is intense. A round-celled infiltration is formed and œdema occurs, which involves the epidermis, and this œdematous invasion, he thinks, takes place prior to the migration of leucocytes. With the increase of infiltration the rete pegs flatten, and the basal layer of the rete becomes disorganised and obscured. The cells of the middle layers of the rete flatten and get almost spindle-shaped, and the granular and horny layers hypertrophy. The horny layer thickens in its lowest layers over the central part of the papule, where it sinks in at the expense of the rete and forms a small horny plug. When this plug is eliminated it causes the *umbilication*, and in this view he is in accord with Radcliffe-Crocker. Vörner and Favera found this umbilication in mucous membrane lesions. A colloid degeneration affects the epidermal cells, and the reaction and protoplasm suffer in staining capacity. With these epithelial changes a dense cellular infiltration is formed in the papillary and sub-papillary layers of the dermis, with a few migrated cells in the epidermis and about some of the outlying vessels. Notwithstanding the records of various kinds of cells found, Fordyce holds that practically two varieties greatly and regularly predominate, the connective-tissue cells with a clear nucleus and the lymphocytes, but he has noted some plasma- and mast-cells and polynuclear leucocytes, the latter especially in the epidermis.

He cannot confirm the occurrence of giant-cells, though simulated in part by some connective-tissue cells. Whether the round cells come from the blood or from pre-existing cells ("leucocyloids") of the perivascular tissue is uncertain. Sub-epidermic, more rarely intra-epidermic vesicles or lacunæ, are a rather frequent concomitant, which the author thinks are most probably due to serous exudation. The sub-epidermic are usually empty; the intra-dermic have been described as containing fibrin, lymphocytes, leucocytes, and eosinophiles.

The papule formation may be about the follicles, but otherwise the appendages are practically unaltered. Fordyce does not confirm Crocker's dictum that typical papules only form about the sweat-ducts. The arrector pili muscles are usually somewhat hypertrophied. The violaceous hue is not constantly present; witness the erythematous phase and the sclerotic. It is probably due to outwandered red blood-cells. The grey points and striæ are attributed to the thickened granular layer. The shape of the angular lesion is caused by the definite circumscription within the natural lines of the skin. Circinate lesions may be formed by grouping of individual lesions, by central involution of a patch or a single lesion. Regressive changes may be marked by pigmentary degeneration (melanin formed) of some epidermic and connective-tissue cells.

The follicular variety of Lichen planus gave rise to a distinct clinical and histological picture. They are usually associated with plane-lesions, but Unna claimed his Lichen planus acuminatus neuroticus occurred in a pure form, and in London we have seen many examples of the pure follicular type. Central horny plugs protrude from the mouths of the follicles. They are associated with the usual epidermic changes and the typical infiltration.

Lichen planus atrophicus or sclerosus, Lichen planus keloidiformis (Pasolow), Lichen planus morphœicus (Stowers), is a rare variety in which the affected papillæ are replaced by sclerotic tissue. Hallopeau thinks there is a primary atrophy beginning as a non-pigmented and sclerotic lesion, and a secondary atrophy consecutive to the regressive transformation of typical Lichen planus papules, and the reporter supports the existence of this secondary atrophy.

In the hypertrophic form there is an enormous thickening of all the epidermic layers and dense infiltration in the papillary and sub-papillary layers, and some deeper vessels are dilated and surrounded by round cells.

J. Hutchinson is quoted as studying the eruption in the mucous membrane, but Erasmus Wilson was the first to do so. Heuss found 40 per cent. thus affected, Gautier two thirds, Herxheimer in about 73 per cent., and Dubreuilh is quoted as stating that there are more cases of mucous membrane lesion alone than of the skin alone.

T. C. F.

A CASE OF PEMPHIGUS VEGETANS, WITH SPECIAL REFERENCE TO THE CELLULAR ELEMENTS FOUND IN THE LESIONS. M. B. Hartzell. (*Journ. of Cut. Dis.*, March, 1910 [illustrated].)

The essential features of this case were the evolution in a man, aged 76 years, of a bullous eruption, beginning on the back of the head, and gradually extending thence to the face, trunk, and extremities; localised especially, but not exclusively, about the axilla, the genito-crural regions and legs; attacking the mucous membranes of the pharynx, and accompanied by papillomatous lesions in the groins and axillæ, the disappearance of the eruption being followed by extreme pigmentation. The man throughout had slight, irregular, convulsive movements of the upper extremities, a marked spastic condition of the thigh adductors, and increased superficial and deep reflexes. The disease ended fatally after a duration of about eight months.

The blebs were seated between the epidermis and corium, and were filled with eosinophilous cells with a few polymorphonuclears and scanty fibrin. The epidermis was but little affected, but showed small collections of leucocytes and some eosinophiles. The papillæ, forming the floor of the bleb, were much elongated. In the papillary and sub-papillary layers there was a moderate infiltration, largely of eosinophilous cells. Hartzell was puzzled by the presence in the blebs of a moderate number of large round cells, about twice the size of the eosinophilous leucocytes, containing a large cavity with a limiting membrane more deeply stained than the ring-like body of the cell, one cell containing four nuclei. Hartzell inclines to reject the idea that these cells were the so-called "ballooned" epithelium of zoster, varicella, and other vesicular and bullous eruptions, because of their uniformity in size and appearance and absence of transitional phases, the absence of ballooning in the epidermis, and their size.

A condyloma-like lesion was found to be formed by a marked thickening of the rete, with but little increase of the papillæ, which contained only a moderate number of polynuclear and mononuclear cells, a few mast-cells and plasma-cells, but no eosinophiles.

The author then puts the question whether Pemphigus vegetans is a distinct disease, or whether it is only a variant of Pemphigus vulgaris. Comparing the histology of a bleb from a case of Pemphigus vulgaris, he found the cleavage of the skin in the same places, but the bleb was full of fibrin, entangling some polynuclear leucocytes with a few eosinophiles. The papillæ were not so markedly enlarged as in Pemphigus vegetans.

[N.B.—The reporter is greatly interested in the special cells described by the author, as in a case of circumscribed pustulating vegetating inflammation on the back of a man's hand, which was investigated as a possible case of blastomycosis, similar cells to those figured by Hartzell were found in the pus and caused much difficulty.]

T. C. F.

SEVEN CASES OF DERMATITIS EXFOLIATIVA, WITH A FATAL ENDING IN FIVE. JOHN T. BOWEN. (*Journ. of Cut. Dis.*, January, 1910.)

IN 1902 the author suggested to the American Dermatological Association that four forms (a typical example shown) could be distinguished, viz. (1) the recurrent desquamative scarlatiniform dermatitis; (2) the Dermatitis exfoliativa of E. Wilson, not so clearly marked out; (3) Dermatitis exfoliativa caused by drug ingestion, or the external action of mercury, or a sequel to a defined skin-eruption, as eczema, psoriasis, and Lichen planus; (4) Hebra's Pityriasis rubra. Subsequent experience, illustrated by the cases here recorded, has shown him how difficult it is to divide generalised exfoliative dermatitis into sharply cut groups. The atrophy of Hebra's type did not occur in Bowen's cases, though there was emaciation. Chronicity and fatality are no sure guides. Bowen has failed to find the special histological lesions described by Leloir and Vidal in three fatal cases of Bazin's *herpetide exfoliative*. No. 7 of the Bowen's cases the outbreak began with the appearance of very small pin-sized vesicles and vesicopustules, which suggests Dermatitis herpetiformis. The reporter exhibited a woman in London whose case had been diagnosed for several years as Pityriasis rubra, but when the process mitigated the evolution of rings of vesicles was seen over and over again and finally ceased.

T. C. F.

N.B.—George T. Jackson, in the same number, reports rapid improvement in a case of Dermatitis exfoliativa under the influence of five and then eight grains of quinine every four hours. Monk had reported a successful case, and in the discussion Nevins Hyde also mentioned great improvement in two cases.

NOTES ON THE TREATMENT OF ALOPECIA AREATA AND DERMATITIS EXFOLIATIVA. George T. Jackson. (*Journ. of Cut. Dis.*, January, 1910.)

Jackson recommends the treatment of Alopecia areata by Piffard's iron spark-gap lamp—a small lamp made of rubber with a handle to hold it. For use it is attached to a coil. The quartz lens is removed in treatment as it allows only ultra-violet rays to pass through. The lamp is held just far enough away from the scalp to prevent sparking, and continued for five to ten minutes, and the application is repeated in two to four days. Heat is thrown out by the lamp and the skin gets reddened.

T. C. F.

GRAIN-ITCH (ACARO-DERMATITIS URTICARIOIDES): A STUDY OF A NEW DISEASE IN THIS COUNTRY. Jay Frank Schamberg, Philadelphia, U.S.A. (*Journ. of Cut. Dis.*, February, 1910.)

In an interesting illustrated paper, which will well repay study in the original, the author discusses an eruption occurring chiefly in household epidemics. It was first noticed in Philadelphia in the late spring of 1901 and has apparently continued, and it exists also in Ohio, Indiana and Pennsylvania apparently. The cause of the eruption was proved to be a mite from straw used in the making of a mattress. The literature of the subject is discussed at length, and the following conclusions are arrived at :

(1) The disease is characterised by a widespread urticarioid eruption, accompanied by intense itching and commonly by mild fever and other systemic symptoms, such as a slight leucocytosis, a moderate eosinophilia, and perhaps albuminuria.

(2) The characteristic cutaneous lesion is a wheal surmounted by a minute vesicle which rapidly becomes pustular. The pathological changes in the skin are characteristic of urticaria.

(3) The disease is due to contact with cereals or straw infected with the *Pediculoides ventricosus* or an allied species of mite, but the mites do not burrow in the skin.

(4) Straw mattresses appear to give rise to the most severe and most persistent

dermatitis for obvious reasons. Straw used for packing purposes, and sacks of wheat, barley, and other grains constitute additional sources of infection.

(5) The *Pediculoides ventricosus* has always been found associated with and predatory upon other insects, particularly grain-destroying insects.

(6) The *P. ventricosus* has an economic and agricultural importance because it tends to protect the grain crops by destroying the larvæ of the wheat-straw worm, the joint worm, and the grain moth.

(7) Wherever "grain-itch" is prevalent, it will probably be found that grain-destroying insects abound.

(8) An identical or similar affection from contact with sacks of barley and wheat was noted by naturalists many years ago in France, Germany, Russia, and certain other European countries.

(9) "Grain-itch" is readily cured if the sufferer can avoid the source of infection.

The author refers to an outbreak of "barley-itch" in fifteen porters unloading a cargo of barley from West Africa recorded by Dr. W. Kenneth Wills of Bristol, and to an article by A. Ducrey and Sberna (*Monats. f. prakt. Derm.*, January, 1910).

T. C. F.

TWO IMPORTANT PARASITES OF THE SKIN (ILLUSTRATED).

Emilio Costa. (*Journ. of Cut. Dis.*, January, 1910.)

The author, who appears to have been in the service of emigration, reports a case of *Dermatobia noxialis* and one of *Sarcopsylla penetrans* in persons returning to Italy from South America.

Dermatobia noxialis.—An infant, aged 10 months, was left sleeping on the ground a month previously, and when seen had three roundish, soft, elastic swellings on the scalp, the size of a mandarine. The swellings were not reddened, but displayed a central small opening from which a frothy, whitish, thread-like serum exuded. From each swelling was extracted a whitish, globular, segmented, shiny worm ("bicho," or "büccio," a worm), the larva of an œstride (*Dermatobia noxialis*). The swellings then rapidly subsided. La Condamine first described it. It abounds in inter-tropical America, and also attacks the monkey (ver macaque of Cayenne and French Guiana; ver moyocuil of Mexico; torcel of Brazil). It may attack dogs and cattle. Humboldt relates having seen Indians whose abdomens were literally covered with the small tumours they excite. Layet says that eggs or larvæ are deposited in the skin by the adult fly by means of a special mechanism, but it is also proved that the larvæ hatched from the eggs on the leaves of trees attach themselves to the skin of man and beast. Toussaint says the larvæ enter by the hair-follicles and distend them by growth. If a little cutting operation is objected to the larvæ can be killed by a cotton pad soaked in 4 per cent. carbolic solution and then extracted.

Sarcopsylla penetrans.—Under this name the author also records a case in which this parasite was extracted from a child's toe. It appears to be the chigoe, also named "*Rhynchoprion penetrans.*" Originally from the coast of inter-tropical America, the parasite was imported about the year 1872 by a Portuguese boat to the coast of Africa, where it propagated, especially in the Congo, in an extraordinary manner. This or a similar parasite was observed in Abyssinia.

The coolies took it to Oriental India and French soldiers conveyed it from Senegal to Madagascar, so the author relates. The male or young female bites like the common *Pulex irritans*, but the impregnated female penetrates into the skin of human beings or animals, and sucks the blood from the papillæ without producing pain. It excavates a cavity with the proboscis fixed to the bottom, and the hind quarters block the small opening. It changes to a white colour; the abdomen swells enormously with a number of eggs, which, when mature, are expelled. It inhabits by preference dry and sandy soil, but also dry vegetation and dead plants. In the rainy season it lives in huts and houses, preferably abandoned ones. It attaches itself to the soles, between the toes, and under the nails, and other regions, as the scrotum, penis, peri-anal region, face and hands. Three hundred have been found on a subject. It causes inflammation.

As for treatment, the parasite should be removed before ulceration sets in. Persons acquire an extraordinary ability for the extraction operation. The epidermis is cautiously raised by a needle and the worm carefully detached by pulling on the abdomen. If the worm holds it may be torn. In Cayenne they force mercurial ointment into multiple punctures and cover with a compress saturated in camphorated alcohol, and later the larva can be carefully removed.

Houses should be kept clean and disinfected, and the feet should be bathed daily and dressed with turpentine. Reclining on the ground is dangerous, and leather shoes should be worn.

T. C. F.

NOTES ON THE HÆMATOLOGY OF PELLAGRA. C. H LAVINDER. (*The Virginia Medical Semi-monthly*, January 21st, 1910, p. 465.)

THE researches of Dr. Lavinder as regards the blood of pellagrins are summed up as follows:

(1) There seems to be present in pellagrins a fairly constant secondary anæmia, usually not of a severe type, with corresponding qualitative changes in the red blood-cells.

(2) Leucocytosis is rarely seen in pellagra, and this is probably not a phenomenon of uncomplicated pellagra.

(3) The results obtained by various workers on differential leucocyte counts are very discordant, and conclusions should be drawn therefrom with much hesitation.

(4) Nothing resembling a protozoal parasite has been reported as observed in the blood of pellagrins.

(5) Dr. Lavinder has found, in a limited experience, that the blood of pellagrins in South Carolina is uniformly sterile, and is not infective for ordinary laboratory animals. Further, he has not been able to isolate Tizzoni's micro-organism.

G. P.

WASSERMANN'S REACTION, WITH, SPECIAL REFERENCE TO ITS CLINICAL APPLICATIONS. HARALD BOAS. (*Copenhagen University Thesis* [one coloured plate], 1910, p. 227.)

IT is unfortunately the case that the excellent work of our Scandinavian friends is frequently overlooked. I have therefore pleasure in calling attention to the very exhaustive thesis of Dr. Harald Boas, who has patiently examined numerous cases of syphilis and other diseases from the point of view of the Wassermann reaction. With regard to control cases, he has examined the blood of 1032 patients suffering from all kinds of general and cutaneous morbid conditions, ranging over the field of medicine from Alopecia areata to Korsakow's psychosis, and including the results obtained in 36 normal individuals. Out of these 1032 cases, apart from syphilis, *one only*, scarlatina (66 scarlatina patients were dealt with), gave a positive reaction. In passing it may be stated that among the foregoing was one instance of leprosy, which was negative. The same result was obtained in 7 cases of Herpes genitalis, 12 of Iritis gonorrhoica *sive* rheumatica, 41 of Ulcus venereum, 2 of Vincent's angina, and so forth. In another chapter the author deals with the reaction in the primary chancre stage of syphilis. He dealt personally with 76 cases, 56 of which were positive and 20 negative. As to the time that had elapsed in cases where it was possible to obtain dates between the infective coitus and a positive Wassermann result, he gives the following figures: Four weeks, 8 cases; five weeks, 4 cases; six weeks, 3 cases; seven weeks, 5 cases; eight weeks, 6 cases; nine weeks, 2 cases; twelve weeks, 1 case. In secondary (or early) syphilis, *untreated*, Dr. Boas found the Wassermann constantly positive (269 cases), but in early treated cases the figures were 187 positive and 12 negative (199 cases; one of these was a syphilitic neuritis and 18 syphilitic iritis and irido-cyclitis). He found also that the Wassermann reaction was constantly positively present in early untreated tertiary (or late) syphilis. The author also investigated so-called latent syphilis. Of 243 cases, he found 89 were positive and 154 negative. An interesting point relates to 7 cases of well-developed leucoderma colli: 6 were positive, 1 was negative, notwithstanding repeated examination.

Again, as to tabes dorsalis, his figures are: untreated, 17 cases = 17 positive, and treated, 26 cases = 11 positive and 15 negative. The same results were obtained in general paralysis—109 cases, 109 positive. An examination of the *cerebro-spinal fluid* in 66 of these 109 cases gave the following results: 36 positive and 30 negative. This shows the importance of not relying on a cerebro-spinal examination alone. With regard to congenital syphilis, he examined 11 mothers. They all reacted positively, thus further confirming Matzenauer's position.

The foregoing is merely a rapid survey of this highly interesting Danish monograph. It should be added that the results obtained by other observers to date have been tabulated by the author for purposes of comparison with his own. A complete bibliography is appended.

G. P.

OBLITERATIVE SYPHILITIC ARTERITIS AND PHLEBITIS IN A CASE OF MASSIVE GANGRENE OF THE LOWER LIMB.

Etienne and Lucien. (*Ann. de Derm. et de Syph.*, October, 1909, p. 545.)

A case is reported under this heading of a man who had contracted syphilis ten years previously, for which he had been continuously but possibly inadequately treated with mercurial inunctions for six years. The symptoms had begun acutely with pain in the leg and progressive gangrene, which caused an amputation to be undertaken a month later. The popliteal artery showed immense thickening of its walls, which caused obliteration of its cavity. Other arteries in the limb were similarly but less affected. The endarterial wall was chiefly involved. All the walls of the vein were thickened by inflammation and the cavity reduced to a mere slit.

The fact that the endarterial wall was mainly diseased is in uniformity with the observations of many other observers, who have noted that in syphilitic cases this envelope was predominantly affected. The disease of the *veins* here reported is a much rarer event.

The paper is illustrated with figures in the text.

E. G. L.

TARS, A CHEMICAL AND PHARMACO-DYNAMIC STUDY OF THE, PRINCIPALLY FROM THE POINT OF VIEW OF THEIR EMPLOYMENT IN DERMATOLOGY. Brisson. (*Ann. de Derm. et de Syph.*, October, 1909, p. 554.)

Much has been written of late on the subject of the use of coal tar, especially by Brocq and his pupils. This research into their chemical properties cannot fail to be interesting and timely.

Coal-tar is produced by the distillation of coal, and the product varies according to the temperature of distillation, the quality of the coal used, and other matters. Analyses are given of various types of coal-tar, for which reference should be made to the paper. Much importance has been ascribed to the phenol which forms a certain proportion of coal-tar, stated by Brisson to be 1 per mil. of pure phenol. He very pertinently observes that this proportion of phenol could hardly be supposed to exercise the undoubted curative agencies of coal-tar, and he ascribes the preponderant influence to other constitutents, such as sulphur, nitrogen in an ammoniacal form, aniline, pyridine, and especially guinoleine; the latter can be demonstrated *in vitro* to be a dissolvent of leucol, tyrosine, fatty matters, and sulphur. It softens keratin. Its antiseptic action is greater than that of phenol, and it has more penetrative power. Quinones, which are reduced phenols, play an important part in the effect of coal-tar, and may even exercise an internal influence on the liver and intestine, as well as locally on the skin. Most of the purgatives used in medicine are quinones or derivatives of them. A practical point is the recommendation of the more viscid coal-tars, and in the form of division or emulsion. Two laboratory products have been tried at St. Louis and found useful: (1) a varnish made with caseine, containing half its weight of coal-tar; (2) a powder prepared from the resinous deposit of coal-tar.

E. G. L.

GREY OIL: A RESEARCH ON THE ALTERATIONS PRODUCED BY INJECTION OF. Pellier. (*Ann. de Derm. et de Syph.*, April, 1909, p. 247; May, 1909, p. 294.)

By an accident unconnected with the injection, a patient who had had a series of injections of an amount of grey oil equivalent to seven divisions of a Barthelemy syringe died four days after the last injection was given. A post-mortem examination was obtained, and this paper is a full description of the findings of this examination as regards the alterations produced by the injections. It is preceded by a careful analysis of previous data derived either from clinical or experimental sources. The personal observation included the examination of the relics of four previous injections. The latest was naturally the most obvious, and examination of the tissues involved showed a cavity in the muscle filled by a blackish-red clot the size of a walnut, with a central canaliculus filled with greyish puriform liquid. Some metallic mercury was recognisable both in this central canal and in the peripheral exudation round the clot, and was easily recognisable as small shining droplets in the site of injection made four days and nine days previously, and possibly even in one case fourteen days previously. In a case quoted by Bory, metallic mercury was visible in the site of an injection given at least forty days before examination. In combination with the tissues, mercury appears to produce granulations of a blackish colour, and spherical, irregular, or "crystalloid" in appearance, and, finally, a yellowish-black deposit which disappears by phagocytosis.

The first action on the tissues seems to be the production of hæmorrhage, the clot being surrounded by connective-tissue cells, which speedily undergo fibrous organisation.

Six coloured illustrations give an excellent idea of the histological appearances found.

E. G. L.

ON THE SO-CALLED SCUTULA PRODUCED BY TRICHOPHYTONS AND SO-CALLED TRICHOPHYTONS PRODUCING SCUTULA. Sabouraud. (*Ann. de Derm et de Syph.*, May, 1909, p. 289.)

This is a short paper, questioning some recent identifications of trichophyton with favus, and re-affirming the author's conviction that true trichophyta do not produce scutula. In one case in which an organism was described by Sabrazes as a trichophyton which produced scutula, this author sent his cultures to Sabouraud, who was able to demonstrate that the organism was, in fact, the Achorion gypseum described by Bodin in 1907.

E. G. L.

REVIEWS.

Radium-Therapy.*

The medical profession of English-speaking countries owes a debt of gratitude to Dr. Ernest Dore for his admirable translation of the *Radium-Therapy* of Wickham and Degrais. The original is already well known to all specially interested in this subject. It is largely to the labours and researches of Wickham and Degrais that radium has become a practical therapeutic agent, and though there is still much to be learned regarding this powerful element, they have established principles with regard to its manner of action, dosage, and therapeutic effects which are irrefutable. The fact alone that a book of over 300 pages, profusely illustrated, has been published on radium-therapy is in itself an evidence of the importance and possibilities of the subject. In the introduction the scientific principles on which the action of radium is based, the types of rays given off by it, the methods of application, the reaction and destructive effects produced by it, the difference of resistance of the tissues to its rays, and their bactericidal effects are discussed in general. Part I deals with (1) the "physics of radium"; its nature, origin, preparation, chemical, physical, and biological properties, the composition of its rays, and their filtration by means of various screens; and (2) with radium emanations and the manner of using them. In Chapter 2 the radium apparatus is described in detail. It consists (1) of radium salts contained in tubes of glass, gold, silver, or platinum, and of a thickness dependent on the intensity of the radio-activity desired, and (2) of radium salts applied by a varnish on to metallic or linen surfaces. Next follows a chapter on the technique and methods of operating with radium, in which the length of application and dosage are described, the method of "cross-fire" referred to, and the relative value of screens of air, aluminium, lead etc., considered. Chapter 4 deals in detail with the manner of dosage, and gives a summary of the data required for the calculation of the therapeutic value of different specimens.

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* *Radium-Therapy.* By Dr. Louis Wickham and Dr. Degrais. Translated by S. Ernest Dore, M.A., M.D.Cantab., M.R.C.P.Lond., with an introduction by Sir Malcolm Morris, K.C.V.O. London: Cassell & Company, Ltd., 1910 Pp. 306. Price 15*s.* net.

The remainder of the book is occupied with the therapeutics of the subject, and the results are described under the headings of the different diseases which are chiefly benefitted by its application, namely, angiomata, pigmentary nævi, cheloids, muco-cutaneous tuberculosis, epitheliomata, and rodent ulcers, etc. A large number of cases are quoted and depicted before and after treatment, in certain of which excellent results are recorded. It is important to remember, however, that these were obtained under exceptional circumstances, with large quantities of radium applied to the best advantage in the most scientific manner, and that it is only under similar conditions that they can be repeated. It is well, also, not to lose a proper sense of proportion in the glamour cast by this new remedy, and to realise that certain of these cases could be cured as effectively, and with equally satisfactory cosmetic results by other methods.

In the treatment of rodent ulcer, radium gives more certain results than any other method except free excision; for cheloids it is the best treatment at present at our disposal; and in the case of port-wine stains its action is superior to that of any other treatment. With regard to the all-important question of its action on internal carcinoma it is important to keep an open mind, and not to stumble into the pit-fall of unwarranted exaggeration. Radium-therapy is still in its infancy, and it will be unfortunate if, through exaggeration, its value, like that of the old tuberculin, be seriously discredited. For by regarding it as a panacea for all manner of cutaneous affections, and employing it in unsuitable cases, failure is inevitable. The English edition is prefaced by a short introduction by Sir Malcolm Morris, in which a tribute is paid to the labours of the authors, which will be heartily endorsed by everyone on this side of the Channel.

TREATMENT OF SKIN-AFFECTIONS BY RADIUM.*

THIS work contains an account of the treatment of various affections of the skin by means of radium at the St. Louis Hospital. The patients were chosen from the clinique of Dr. Danlos, who contributes a preface, and who selected the cases and watched the results of the treatment.

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* *Treatment of Skin-affections by Radium.* By Dr. MASOTTI. Preface by Dr. DANLOS. Baillière and Sons, Paris, 1910.

The first part is devoted to a description of the apparatus and methods of application. In dealing with the factors which determine the length of the exposure, the statements that shorter exposures are required in children than in adults; that reaction is much more pronounced in women than in men; that cold retards the effect of the treatment and heat renders it more efficacious; that lesions in certain positions, *e. g.* the naso-labial groove, lower eyelids, commissure of lips, or under the lobe of the ear, give rise to a more marked radium dermatitis than those of other parts, and that the buccal, nasal, and conjunctival mucous membrane react more readily than the skin, are, perhaps, open to criticism.

The second part of the book deals with the treatment of various diseases. The illustrations of nævi and other conditions, before and after treatment, show the excellent results obtained by the use of radium. For purposes of treatment, nævi are classified by the author according to their superficial or deep character and their colour. The consistency of the growth, distance separating the vessels, affection of mucous membranes, and texture of the healthy skin must also be taken into consideration.

All the cases of superficial, ulcerated, or non-ulcerated epitheliomata of the skin and mucous membrane gave favourable results. The author believes that all the radiations should be employed, and that filtering only prolongs the treatment. For this reason it was abandoned. In Lupus vulgaris, he considers that radium is not very superior to other methods, and advocates a preliminary scarification. This combined treatment also gave good results in Lupus erythematosus, acne, and rhinophyma. In leucoplakia no treatment is as rapid and efficacious as that of radium. In rosacea much benefit can be obtained, but the exposures must be carefully regulated, and when the vessels are very abundant electrolysis may be employed simultaneously. Lichenified eczema and the nevrodermite of Brocq are also favourably modified.

In a final chapter the advantages and disadvantages of radium treatment are considered. The former are the constancy of the results, the excellent appearance of the repaired tissues, absence of pain, and the facility with which patients can be treated at their homes. Among the disadvantages are the high price of radium, the occurrence of pigmentation, telangiectasis, atrophy, and to these the author adds neuralgia, itching, relapsing and ordinary radium-dermatitis, and persistent desquamation.

In a work of this size it is clearly impossible for the author to do justice to such a large subject as that of radium-therapy. In the main, his conclusions are the same as those already put forward by Dr. Wickham and others, but there is a notable exception with regard to the use of filtering, which he appears to condemn.

As a record of the effect of radium treatment on certain diseases, and as an introduction to the practical part of the subject, this little book will doubtless prove of interest, but the small number of cases dealt with, and the scanty details given of the treatment and results, considerably detract from its value either as a text-book of reference or as a practical manual.

S. E. D.

THE BRITISH
JOURNAL OF DERMATOLOGY.

AUGUST 1910.

CASE OF PARAKERATOSIS VARIEGATA.

By Sir MALCOLM MORRIS, K.C.V.O.,

and

S. ERNEST DORE, M.D., M.R.C.P.(Lond.).

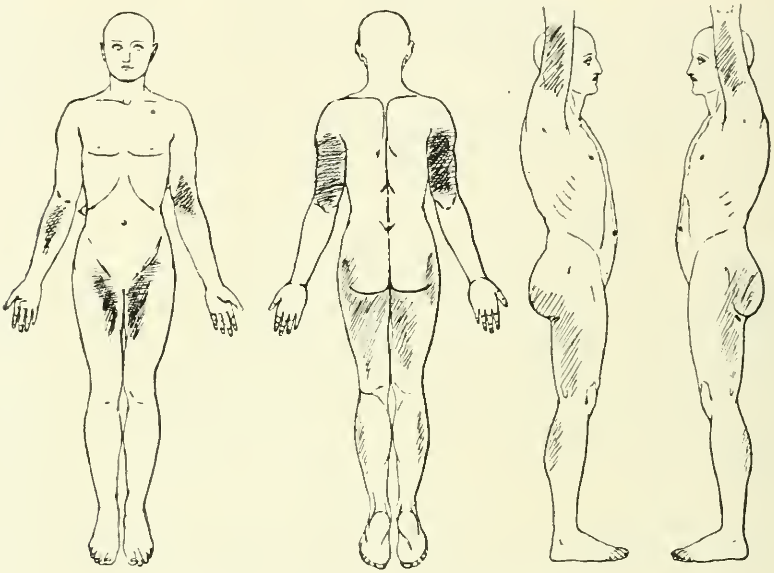
History of present condition.—The patient is a man, aged 50 years. The first thing he noticed was a roughness and scaling of the arms and legs about eight years ago. Two years later the skin became red in patches, and sore, and some of the patches became covered with scales. The eruption has remained with very little alteration until the present time, but since two years ago, when it was at its worst, there has been a little improvement.

With the exception of the fact that he is "gouty," and that he has always had a bad circulation, having suffered severely from chilblains as a boy, he cannot suggest any cause for his complaint. He has also been subject to attacks of rheumatic pains, but has never been laid up by serious illness. He had one severe attack of gout affecting the heel.

He has a mother living, and in good health, and his father died recently at the age of eighty-four. Three sisters and one brother are alive and well.

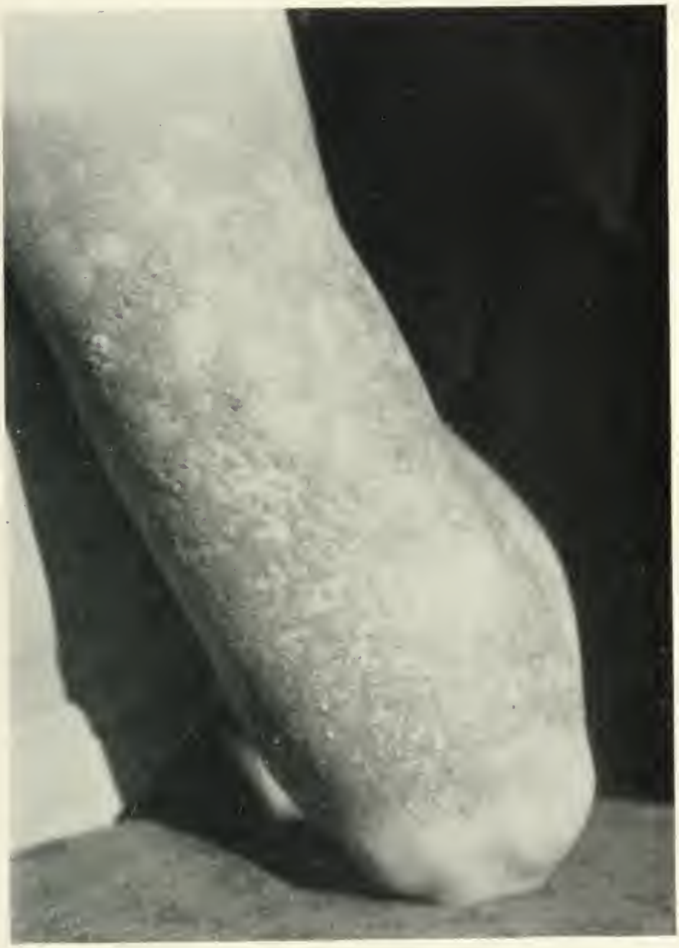
Present condition.—The eruption is roughly symmetrical in distribution, and is present on the upper arms, chiefly on the outer aspects, on the forearms, where the flexor surfaces are principally affected, on the upper and inner aspects of the thighs, to a slighter degree on the back of the thighs and outer part of the buttocks, and very slightly on the calves of the legs. The skin of the face and neck, trunk, extensor surfaces of forearms, and of the hands and feet is perfectly normal and has never been affected. The scalp, knees, and elbows are also unaffected.

The appearance of the eruption is most striking and characteristic on the right upper arm. It consists of irregular-shaped patches of a bright red to crimson colour, extending in a longitudinal or oblique direction along the main axis of the limb, leaving intervening areas of healthy skin, the whole having a mottled or retiform appearance.



Distribution of eruption—shaded parts.

It is difficult to make out the elementary lesions, but the patches have a quadrillated surface, like plaques of Lichen planus, and seem to be made up of shiny, flat-topped papules resembling those of that disease, but without their definite outline. The eruption is definitely scaly, and in parts the scales are heaped-up, but they are less silvery and more adherent than those of psoriasis. The lesions are slightly pigmented, and either disappear or leave a brown stain on pressure. On the lower limbs, and also on the left arm, the eruption is somewhat indeterminate in character, having a more uniform appearance, like psoriasis from which the scabs have been removed by treatment, and the retiform arrangement is not so obvious.



TO ILLUSTRATE SIR MALCOLM MORRIS' AND DR. DORE'S CASE.

There is no definite itching, but the heaped-up scales give rise to some discomfort and lead to scratching, their removal being sometimes accompanied by slight bleeding.

Treatment has been practically without effect, except to remove the scaliness, and the tendency of the disease appears to be to spread gradually.

This case evidently belongs to the group of diseases to which Colcott Fox and MacLeod gave the generic title of "resistant maculo-papular scaly erythrodermias," and for which Brocq prefers the term "parapsoriasis." Of Fox and MacLeod's five sub-groups,* viz. Erythrodermie pityriasique en plaques disseminées (Brocq), Dermatitis psoriasiformis nodularis (Jadassohn), Pityriasis lichenoides chronica (Julinsberg), Lichenoid psoriasiform exanthem (Neisser), Parakeratosis variegata (Radcliffe-Crocker), there is no difficulty in identifying it with the last, viz. Parakeratosis variegata (Unna), or Lichen variegatus (Radcliffe-Crocker); the most distinctive feature from a clinical standpoint being the peculiar retiform arrangement, small areas of healthy skin being enclosed in an irregular network made up of more or less scaly macules or papules. In other features, viz. absence of marked subjective symptoms, chronicity and liability to remissions and exacerbations and resistance to local treatment, it also conformed to the characters laid down by these authors. The fact that it was not universally distributed on the trunk, as in the majority of the recorded cases, may perhaps be explained by its slow progressive tendency, but that a limited localisation is not incompatible with the diagnosis of Parakeratosis variegata is shown in one of Brocq's cases, in which only the forearms were affected.† The absence of the disease on the face, scalp, palms, and soles is according to rule. The occasional bleeding of the lesions described by the patient may have been produced by unusual violence on his part; it certainly did not occur when the scales were gently scraped with the finger-nail. Unfortunately we were unable to obtain a biopsy.

Of Brocq's three varieties of parapsoriasis or paralichen (a name, perhaps, more applicable to the type under discussion owing to its close clinical affinities with Lichen planus), (1) Parapsoriasis en gouttes (allied to psoriasis), (2) Paraplichénoide (intermediate between lichen and psoriasis), and (3) Parapsoriasis en plaque, or Erythrodermie pityriasique en plaques disseminées (allied to the psoriasiform seborrhöides), the second is the one which corresponds to Parakeratosis variegata or Lichen variegatus, and includes the present case. According to Brocq's description, this variety is characterised by minute papules, the size of a pin's head, flattened, shiny, and resembling abortive Lichen planus papules, except that the colour is more vivid, sometimes depressed, and having an atrophied appearance, sometimes larger and slightly scaly, never giving the characters of psoriasis when scratched with the nail, slightly or not pruriginous, having a tendency to form a more or less close and extensive sinuous and irregular tracery, enclosing zones of healthy or nearly healthy skin of various sizes, also forming in some cases more or less extensive irregular plaques constituting transition stages between this and the third variety; of varying colour, from pale rose to bluish red according to localisation, the whole giving a general mottled appearance to the patient, distributed especially on the trunk and limbs, nearly always leaving the face free, having a very slow evolution, and offering great resistance to local treatment.

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* "On a Case of Parakeratosis variegata." *Brit. Journ. Derm.*, September, 1901.

† "Les Parapsoriasis," *Ann. de Derm. et de Syph.*, 1902, p. 406.

A NOTE ON THE PRESENCE OF ACID-FAST BACILLI IN THE FÆCES IN TUBERCULOUS CONDITIONS, WITH SPECIAL REFERENCE TO LUPUS VULGARIS.

By FREDERICK P. WILSON, M.D.,
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In considering the functions of the intestinal mucous membrane we are apt to regard it chiefly as a digestion organ, and to overlook its equally important function as an organ of excretion. It is well established that drugs, toxins, and waste products of metabolism are excreted by the intestine, and recent research tends to prove that the body rids itself also of micro-organisms in this way. Among the organisms studied in this respect the tubercle bacillus has attracted some attention.

Up to the year 1906 several observers had noted the occurrence of acid-fast bacilli in the stools of patients suffering from phthisis and intestinal tuberculosis. In the former case the presence of the bacillus was thought to be due to the swallowing of the sputum, and in the latter to be diagnostic of intestinal ulceration. Recent work, however, tends to show that, besides being one of the paths of infection in tuberculosis, the intestine may also excrete the tubercle bacillus, although the focus of disease may be at some remote part of the body, such as in a lymph-gland or a joint. In these cases the blood must act as a carrier, and it is interesting to note that the tubercle bacillus has been found in the blood of phthisical patients, although some doubt has recently been expressed as to its alleged frequency.

In 1906 Emerson showed that acid-fast bacilli occurred in the stools in pulmonary and abdominal tuberculosis, although post-mortem examination showed no intestinal ulceration. In 1908 Rosenberger recorded fifty-seven cases in which acid-fast bacilli had been found in the fæces and in which tubercular lesions were demonstrated post-mortem. Although in some of these cases the lungs and intestines were affected, in many of them the only parts diseased were the bones, joints, or glands. Among them was one case of Lupus vulgaris. It may be added that Rosenberger found the bacilli in every case of acute miliary tuberculosis he examined.

Fabricci has recently pointed out the importance of the detection of the bacilli, especially in children, where as a rule there is no sputum, so that the expectoration is usually swallowed, and hence if tubercle bacilli are present, they may be detected in the fæces. Out of thirty-five children suffering for the most part from various kinds of tubercle the result was positive eleven times. Out of nine adult cases of tuberculous disease seven were positive.

F. Griffith recently has found tubercle bacilli in the fæces of tubercular cattle, and has proved that when the bacilli are injected into a cow the milk may be infective without disease of the udder.

Moore Alexander, in an exhaustive study of the subject, found tubercular acid-fast bacilli in fifty-two out of seventy-four cases of disease in various parts of the body, *e. g.* meningitis, chronic pleurisy, caseous glands. He was unable to demonstrate acid-fast bacilli in the fæces of eighteen healthy persons and 111 patients suffering from diseases other than tuberculosis. This latter observation is important, as it is sometimes stated that acid-fast bacilli occur in normal stools, although no reference can be found in the literature to any work proving this statement. Griffith and Alexander increased the value of their observations by injecting fæces into animals and so producing tuberculosis—a precaution which seems to have been wanting in the observations of other workers.

The above results suggested an inquiry into the presence of the tubercle bacillus in the stools of patients suffering from Lupus vulgaris. Accordingly the following nine cases were examined. They were all attending the Skin-Department of the Liverpool Royal Infirmary, under the care of Dr. Leslie Roberts, who kindly placed the patients at my disposal :

Case 1, lupus of nose ; Case 2, extensive lupus of foot and leg ; Case 3, lupus of face ; Case 4, lupus of buttock ; Case 5, lupus of face and hand ; Case 6, lupus of face ; Case 7, lupus of face, arms and legs ; Case 8, lupus of arms and shoulders ; Case 9, lupus of leg and face.

The technique employed was that used with great success by Rosenberger and Moore Alexander. Thin smears of a perfectly fresh stool were made with a sterile glass rod on at least half a dozen glass slides, dried in air, and fixed in a Bunsen flame. The slides were then stained by the Ziehl-Nielsen method. Some workers recommend fractional sedimentation of the stool or previous digestion with antiform, but both Rosenberger and Alexander consider these modifications unnecessary. For routine work it is sufficient to examine two or three slides.

Further, in the first six cases an extract of the fæces was injected into guinea-pigs. In each case doses of 0·02 gramme and 0·01 gramme of fæces in sterile normal saline were given. These injections into guinea-pigs were kindly made for me by Dr. Moore Alexander, and in each case proved negative. Careful search of the smears also failed to reveal any acid-fast bacilli.

It is important to note that in none of the above cases was the stool hard or constipated, as Alexander has shown that the tubercle bacillus is often absent in this condition, but may appear after the administration of a purgative, such as calomel. These negative results in Lupus vulgaris are interesting in view of the fact that it has always been regarded as a strictly local affection, with little tendency to give rise to tuberculosis in other organs. In this country the percentage of lupus cases which develop phthisis, meningitis and tuberculosis of other internal organs is extremely small, but appears to be larger on the continent.

Although, so far, the results have been negative, the success which has attended the examination of the stools in tubercular disease of the glands and joints leads one to hope that by further investigation and improvements in technique it may be possible to demonstrate the tubercle bacillus in the fæces of patients suffering from so-called toxi-tuberculides. In such cases repeated examinations might be rewarded with success, and the tubercular origin of these lesions confirmed.

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THE FUNCTIONS OF THE SKIN.

BY M. S. PEMBREY, M.A., M.D.,
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LECTURE IV.

THE loss of moisture from the skin by the process of perspiration increases with the external temperature, but if the man be at rest and not exposed to a high temperature there is no discharge of sweat. Directly, however, the external temperature reaches the critical point between 33° and 36° C. (91·4° and 96·8° F.) beads of sweat appear, and there is a great increase in the discharge of water and carbon dioxide from the skin. The data already given upon these points were obtained from observations made upon a man sitting naked in a respiration chamber. Under such conditions the loss of moisture is less than it would be if the man were clothed. This can be proved from the results of Schierbeck's experiments upon the same man when he was clothed :

Temperature of air. Centigrade.	Water per hour. Grms.	Carbon dioxide per hour. Grms.
28·4°	51·0	0·35
28·9°	50·8	0·33
29·5°	74·3	0·33
31·8°	110·1	0·30
32·7°	119·1	0·37
33·4°	122·3	0·80

The great increase in the discharge of carbon dioxide from the skin when the temperature of the air rose to 33° C. (91·4° F.) indicates in this, as in the former series of experiments, the point at which sweating began. The discharge of water from the clothed skin when the temperature of the air was 32° C. (89·6° F.) was equal to that from the naked skin at a higher temperature, namely 36° C. (96·8° F.); in the former case sweating was absent, in the latter it was present.

The clothed condition is the natural one for all but those who live in tropical climates, and it is necessary to consider the discharge of moisture from the skin at the temperature of the air which is confined in the clothes. That temperature is about 32° C. (89·6° F.) under the ordinary conditions of external temperature, and we may therefore estimate the loss of moisture from the skin of a man clothed and at rest to be between 2000 and 3000 c.c., and the discharge of carbon dioxide between 7 and 8 grm. in twenty-four hours. These values are for the losses by perspiration alone. When the sweat-glands become active owing to a higher temperature or to muscular exercise, the losses, especially of moisture, are very much greater; a man may lose as much water during one hour of active exercise as he would lose in twenty-four hours of rest.

A distinction has been drawn between perspiration and sweating, and more evidence must be given in support of the contention that these are two distinct processes. Sweating is an active secretory process controlled by the nervous system; perspiration appears to be a transudation influenced chiefly by the vascularity and temperature of the skin. It is true that the latter factors are important in relation to sweating, and on the other hand it must be admitted that the transudation through the epithelium of the skin may be influenced directly or indirectly by the nervous system. It is necessary to recognise the complexity of the problem, and then to attempt to discover if the loss of moisture and of carbon dioxide from the skin may be due to two different processes.

It is well known that a secretion of sweat may be evoked by emotions. Fear and pain will produce profuse sweating in men, and also in the horse. A cat will sweat on the pads of its feet when it is disturbed at the sight of a dog. Stimulation of most afferent nerves will produce sweating by reflex action. Thus Brown-Séquard noticed in his own case that the taste of chocolate always caused in less than five minutes an abundant secretion of sweat on the lips, nose, and forehead; in another the taste of pickles had a similar effect. The sweating in these cases is not always accompanied by a dilatation of the cutaneous blood-vessels; it may, indeed, be associated with pallor, as in the sweating produced by severe pain or fright.

The influence of stimulation of a nerve upon the secretion of sweat is shown by the following simple experiment. This cat has been killed by an overdose of an anæsthetic; the pads of its feet are examined and found to be quite dry; the sciatic nerve is now exposed on the right side. A pair of electrodes are placed under the sciatic nerve and a strong tetanising current is passed through the nerve for a second or two; after a distinct but short latency, beads of sweat appear upon the pads of the right hind foot; the pads of the other feet, which serve as a control, remain dry. The tissues have survived, although the cat is dead. The circulation has ceased; the secretion of sweat cannot be due to changes in the flow of blood; the experiment can, indeed, be performed successfully upon the amputated leg.

Further evidence of the influence of the nervous system upon the secretion of sweat can be obtained from cases of disease in man. In early paralysis of the cervical sympathetic nerve sweating occurs on the paralysed side, but after a time this condition is succeeded by incapacity to sweat on the same parts of the skin. The early condition is associated with increased vascularity of the skin, but when the paralysis is of long duration the blood-vessels are contracted.

Diseases of the spinal cord are accompanied in some cases by a localised hyperhidrosis, in others by anhidrosis, and the condition may be unilateral or bilateral.

Surgeons have observed that when a plastic operation has been performed the skin involved does not sweat until it has regained its sensitiveness.

A very interesting condition is seen in cases of traumatic section of the spinal cord due to fracture of the vertebral column; the unfortunate patient can sweat only upon those parts of the skin which are not paralysed. The position of the lesion can be localised in this way; if the patient's temperature rises, or if he is given a dose of pilocarpine; the paralysed parts do not sweat, whereas the other parts of the skin are covered with a profuse secretion. This evidence points to the existence of special nervous centres for the control of sweating; the higher centre is probably in the spinal bulb, and subsidiary centres appear to be present in different parts of the spinal cord. Further clinical observations are needed upon these points, for the sweat-glands are more highly developed in man than in animals. Experiments have shown that sweating may occur upon the paralysed parts after transverse section of the spinal cord in animals; the centres in the spinal cord are more independent of the higher centres than is the case in man. In a paraplegic cat secretion of sweat may be called forth by central stimuli, by reflex action, or by peripheral stimuli; partial asphyxia produces sweating in the pads of the hind feet, even after division of all the posterior nerve-roots below the section of the spinal cord, and a rise in the temperature of the blood acts in a similar manner. These effects, however, are abolished if the sciatic nerve be cut; this indicates that the secretion in these cases is due to central stimulation, not to reflex action or to warming of the gland by the rise in the temperature of the blood.

The influence of other factors upon the secretion of sweat must now be considered. In the first place the relation of the blood-supply to sweating is the most important; the general condition is that sweating is accompanied by a dilatation of the blood-vessels of the skin, for both factors increase the loss of heat from the skin. This is the healthy reaction to increased heat, but when the sweating is due to pain or fright the skin may become pallid. The composition of the blood has a marked effect upon sweating; an accumulation of carbon dioxide or a decrease in the oxygen of the blood will produce sweating, and this is probably the cause of the death-sweat. In horses embolism of the larger arterial trunks of the hind limbs sometimes occurs; pain and lameness result, and sweating is limited to that part of the body which is not affected by the embolus; the sweat may be pouring off the general surface of the body, but the hind limbs and quarters are cold and dry.

A rise in the temperature of the blood affects not only the nervous centres, but also the excitability of the sweat-glands. The first effect is well shown by Kahn's experiment, in which the blood passing through the carotid artery is artificially heated above the normal temperature.

Local warmth favours the secretion of sweat; cold has the reverse effect. This is well known from general experience, and has also been proved by experimental stimulation of a sweat-nerve.

It has already been shown by the experiment upon the dead cat that the increased blood-supply is not the cause of sweating; in sickness and disease cold sweats are well known. The secretion is not a filtration from the blood, for the pressure of the secretion may exceed considerably that of the blood in the large arteries supplying the limb. Further evidence upon these points can be obtained from cases of disease in man. Increased vascularity and temperature of the skin are not accompanied by sweating in all fevers; before the crisis in pneumonia the skin is red and hot but there is no sweating, whereas in rheumatic fever the sweating may be profuse. The toxic products of micro-organisms may in some cases paralyse the secretory system, in other cases stimulate it to great activity. The outbreak of sweating at the crisis of pneumonia may be evidence that the anti-bodies produced in the body have antagonised the paralysing action of the toxins.

The actions of drugs upon the secretion of sweat show that the effect may be upon the nervous centres, upon the endings of the secretory nerves, or upon the cells of the sweat-glands themselves. Muscarine, camphor, ammonium acetate, nicotine and strychnine appear to act chiefly upon the centres, for the secretion is diminished or absent if the nerves have been divided before the administration of the drug. Pilocarpine injected subcutaneously will produce local sweating, even when the dose is as small as 0·001 to 0·004 grm., and the drug is effective even after section of the secretory nerves.

Atropine prevents the secretion of sweat; it is the antagonist of pilocarpine, and appears to paralyse in the first place the endings of the secretory nerves and then the protoplasm of the sweat-glands. In men minute doses of atropine will produce local paralysis of the sweat-glands.

In fevers the use of drugs to promote sweating may be accompanied by danger; the sweat-glands may be so paralysed by the toxins of the fever-producing organism that they cannot respond to the drug, and the action of the drug upon other organs may be such as to produce most injurious effects.

(*To be continued.*)

REFERENCES.—*These will be given with the next Lecture.*—ED.

AN EPITOME OF THE NEW SPECIFIC TREATMENT FOR SYPHILIS.

BY J. E. R. McDONAGH, F.R.C.S.

THE stimulus for the invention of the new specific against syphilis was given by Prof. Alt, who had been entrusted with the use of arsenophenylglyzine by Ehrlich, and after employing it widely came to the conclusion that much was still wanting before the point of "Therapia sterilisans magna," Ehrlich's goal, could be reached. Ehrlich's one aim was to produce a drug which would have the power of eliminating spirilla and spirochætæ from the system after a single injection, his so-called "Therapia sterilisans magna." The new preparation, which is said to meet Ehrlich's requirements, is a dioxydiamidoarsenobenzol, and is only stable as a bichloride; but since it must not be injected in the double salt form, it is converted into a mono- or a bi-sodium salt by the addition of sodium hydrate just before use, and as this solution is unstable a fresh solution must be invariably employed.

Ehrlich advises the following method of preparing the drug when it is to be used intra-muscularly: 8 grains of the substance are dissolved in 3 c.c. of glycol, with the addition of a few drops of water. Then 12 c.c. of water are added, the solution well shaken, and 10·3 c.c. of n/5 sodium hydrate added; a clear solution is thus obtained, which is made up to 60 c.c. with water, of which 30 c.c. are injected into each buttock.

If the injection is to be intra-venous two solutions are prepared, well shaken, and mixed immediately before use.

Solution A: 8 grains of the substance are dissolved in 0·5 c.c. of methyl-alcohol.

Solution B is a mixture of 240 c.c. of normal saline solution with 10·3 c.c. of n/5 sodium hydrate.

After an intra-muscular injection the patient suffers as a rule from considerable pain, which may last for hours or even days; therefore the patient should be kept in bed for a week after an injection—a rule often hard to enforce, since the pain is not infrequently worse on lying down than when going about, but in the latter the pain starts again in about a week.

Owing to the irritating effect of sodium hydrate on the tissues marked infiltration of the muscle sometimes occurs, but an abscess has never been noticed.

Iversen used this drug intra-venously with success in cases of relapsing fever, and obtained better results than by intra-muscular injections. Schreiber, having found that animals could be with impunity intra-venously injected, used this means in thirty cases of syphilis, and preferred it to the intra-muscular route, not only on account of the freedom of pain, but because owing to the infiltration of the muscle some of the arsenic becomes shut off and so is never totally absorbed.

Slight fever is the rule after intra-muscular injections, probably due to the irritating effect of the sodium hydrate, since it never occurs after intra-venous injections.

The only untoward result so far obtained was a case of an arsenical exanthem, which of course not infrequently occurs when a patient is taking Fowler's solution.

If the skin-reaction, analogous to that used by Pirquet with tuberculin, be tested on every patient with the solution to be injected before he is put under treatment, it will obviate, and would have obviated, those cases poisoned by the arylarsonates.

The observers are at one accord in the rapid way all symptoms disappear under Hata's preparation. The chancre, for instance, changes for the better after twenty-four hours, to heal in a few days. Some cases have been described in which after injection the primary syphilitic rash has become more apparent, the same as frequently occurs after a mercurial inunction (Herxheimer's sign); Ehrlich regards this phenomenon as proving that the dose was too small, that it had an irritating effect upon the spirochætes rather than a destructive.

The cases which have responded most readily to this new remedy are those which showed little or no improvement upon prolonged mercurial treatment, viz. malignant syphilis and syphilitic bone affections. There are over 200 recorded cases where a positive Wassermann's reaction was converted into a negative one after one injection.

This speaks well for the value of this reaction as it is influenced by treatment, since in many of the late manifestations of syphilis mercury neither produces any clinical improvement or has the power of changing the reaction; the drug under discussion cures the lesion, and at the same time the reaction becomes negative.

Hoppe considers that the influence of the drug is due to its action on the lecithin metabolism. A few days after the injection there is usually a leucocytosis.

The arsenic is excreted both through the kidneys and the intestines.

The toxic animal dose is 2½ grains per kilo, so it will be quite safe to increase the present recognised dose for man if recrudescences appear; since the drug has not been in use long, no one is yet in a position to state whether the single injection will suffice to stamp out the disease, and prevent recurrences or not.

Two injections have been used in a few patients without causing any toxic symptoms. "Forewarned is forearmed," so it will be well to remember that if subsequent injections are found to be necessary one must ascertain how long an interval has elapsed since the first or last one, because should the period be a long enough one for the patient to become anaphylactic, severe toxic symptoms may supervene.

The presence of anaphylaxia can be ascertained by the cutaneous reaction.

Geheimrat Ehrlich has been so kind as to present me with some of his preparation, and at the time of writing I have some cases under treatment, a report on which I will communicate at an early date.

The pain after injection can be minimised by neutralisation with acetic acid without diminishing the action of the drug, and owing to the great bulk obtained when prepared as described above, I find it more satisfactory to follow Michaelis' method. First moisten the powder with absolute alcohol, and dissolve it in 16 c.cm. of very hot water, then add 1 c.c. of normal sodium hydrate solution (40 grammes to the litre) for every $\frac{1}{10}$th of a gramme of powder used: shake well, and add three drops of a $\frac{1}{2}$ per cent. solution of alcohol and titrate with normal acetic acid (60 grammes to the litre), but add finally a few drops of normal sodium hydrate, so that the solution is just alkaline.

Inject half the quantity of the emulsion produced into each buttock, taking the precaution to use a thick needle.

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(2) PICK, DOERR, and PAL.—Gesellschaft der Aerzte in Wien. Meeting. June 24th, 1910.

(3) FREUPEL.—Demonstrationsabend im Hospital zum heil. Geist. in Frankfurt, June 23rd. 1910.

(4) WECHSELMANN.—Berliner mediz. Gesellschaft. Meeting. June 22nd, 1910.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, June 16th, 1910, at 11, Chandos Street, Dr. T. COLCOTT FOX, President of the Section, in the chair.

Dr. H. G. ADAMSON showed a case of *linear nævus with combined verrucose* and *vascular elements.* The patient was a boy, aged 7 years.

The lesion was a linear nævus of the Ichthyosis hystrix type. It extended in a broken line down the outside of the left thigh, across the front of the knee and along the inner side of the calf. It was made up of elongated patches of from one to two inches in width and consisting of a dark brown projecting papillated warty growth. Here and there around the base of the warty patches and along the spaces between them the skin was of a deep purple colour due to the presence of nævus tissue of the type of the "port-wine mark." Along the line of the nævus there could also be felt deeply seated, doughy swellings, evidently subcutaneous vascular nævi, in some parts beneath the warty growth, but also between the warty patches. Both the deep-seated vascular nævus and the verrucose growth were particularly marked over the front of the knee, so that an appearance of swelling and deformity of the knee-joint was produced. The superficial "port-wine stain" was more apparent on the outer side of the thigh and on the inner side of the calf. The condition had existed in some form since birth—apparently only the vascular part, the warty part, as far as could be judged from the mother's account, having appeared more recently.

The case was brought to the meeting on account of the interest which attached to the occurrence of the vascular type of nævus with linear arrangement and in association with the verrucose nævus, a combination with which the exhibitor had not previously met.

Since the meeting Dr. MacLeod had called the exhibitor's attention to a drawing of a Baretta model, in the St. Louis *Atlas*, edited by Dr. Pringle (plate xliv, p. 259, Baretta Model, No. 1772, patent of Dr. Gaucher), which showed exactly the same condition, and which was called "vascular nævus verrucosus of the leg." In this case sections had been made, and these had shown the usual thickening with folding and invagination of the epidermis, with, in addition, the structure of a deep-seated, and, in parts, superficial vascular nævus.

Dr. Colcott Fox showed a case of so-called *Granuloma annulare* in a girl, aged 4 years, with a nodular eruption spreading in rings on the fingers, very similar to one he had demonstrated to the Dermatological Society of London fifteen years ago. On the dorsal aspect of the proximal phalanx of the right forefinger is a projecting nodule, about the size of a hemp-seed, firm, of a reddish tint, indolent, not itching, and painless on pressure. On the dorsal aspect of the proximal phalanges of each little finger is a circinate nodulation with similar characters, and presumably formed by the excentric spread of nodules. These ringed lesions are not composed of an aggregation of whitish nodules undergoing involution in the central parts to form rings. There is no history in this case of any constitutional disturbance shedding light on the ætiology. Radcliffe-Crocker doubted whether the two phases of ring-formation here referred to belonged to the same disease.

Dr. HALDIN DAVIS showed (1) a case of *Lichen planus* in a child. The patient was a boy, aged 9 years, who was attending the Children's Hospital at Paddington Green. The eruption, which had already persisted for three months when it first came under observation, consisted of typical Lichen planus papules which were widely distributed over the trunk, while a few were to be seen on the outer aspects of the knees and elbows. The pruritus was sufficiently severe to prevent the patient from sleeping. The principal point of interest in the case lay in the youth of the patient.

(2) *A case for diagnosis.* This was the case of a little girl, aged 4 years, attending Paddington Green Children's Hospital, who had had measles two months before she came up to the hospital. She had developed an eruption consisting of small brownish papules, in the middle of which, in some instances, the opening of a follicle could be seen, scantily distributed over the limbs, for the most part upon the flexor surfaces, and with a few upon the trunk. One or two were found upon the palms of the hands and upon the plantar surfaces of the feet. When they had once appeared they seem to persist in the same place. There were absolutely no subjective symptoms as far as the skin condition was concerned, but the mother said that the child was not " well in herself," that she would not eat, and that at times she seemed without power in her legs. This paretic state, however, only lasted for a time varying from about ten minutes to half an hour.

As regards the diagnosis, the condition did not seem to fit into any previously described category ; at the meeting the prevailing opinion tended towards one of the forms of Lichen urticatus, but the exhibitor remained unconvinced that this was the correct diagnosis. The patient has now been admitted into the hospital for observation, but it is hoped that the course of the case may throw some light upon the condition.

(3) Sections from a case of *linear nævus.* These sections were taken from a case of linear nævus which was shown to the section at the March meeting.* It was considered to be an example of the variety known as the "Nævus unilateralis acneiformis," of which the best instance was the case shown by Dr. Selhorst from the Hague at the International Congress of Dermatology in 1896. The sections showed, however, that the black dots which formed the conspicuous feature of the condition, and which were thought to be comparable with comedones, really were composed of horny material, and formed plugs which closed the mouths of spherical crypts which were lined with an epithelium like that of the external skin. The nævus is therefore composed of rows of these crypts, of varying size. It is of interest to note that the scar of the incision made for the purpose of removing material for the biopsy has developed keloid.

Dr. Graham Little showed (1) a case of *Acne vulgaris* with keloids in a private patient, a young lady, aged 20 years, who had had the eruption of Acne vulgaris, distributed especially on the back of the body, for at least three years. She had been under Dr. Radcliffe-Crocker's care at the earlier stages of the disease. No incisions had been made in any of the lesions, which had been treated with local applications: but very early in the eruption of acne many of the sites of the disease had developed keloidal growths, of which there were now some eight or nine, the largest the size of 1 in. by ½ in., the smallest the size of a large pea. The growths were firm and hard and apparently tended to increase slowly in size, and fresh growths were making their appearance from time to time. They were not itchy or painful. There was no tuberculous history in the family. There was much eruption of acne on the face, but hitherto no keloidal growths had developed in this position. Dr. Little wished to thank Dr. Morris, of Bognor, for his courtesy in allowing him to show this case.

(2) A case of *Lichen planus* of anomalous aspect and course. The patient was a woman, aged 46 years; she was otherwise in good

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* *Trans. Roy. Soc. of Med.*, Dermatological Section, vol. iii, No. 6, p. 69, April, 1910. Photograph of case.

health. Eighteen months ago the eruption for which she sought relief had appeared; this consisted of a closely grouped eruption of shiny nodules covering an area on the inside of the knee and adjacent part of the right thigh of about four by five inches. There was much itching in this position, but there was no eruption elsewhere on the body, or on the mucous membranes of the mouth or the vulva. There were no typical Lichen planus papules, the lesions being much larger and more salient than usual, and the exhibitor had, in fact, thought of the possibility of the nodules being myomata, and had excised one for histological examination. The site of the eruption and the itching certainly suggested the diagnosis of Lichen planus, which was probably correct. She had had fifteen minims of arsenic daily for two months without the smallest influence on the eruption. A Wassermann reaction test had proved negative.

Dr. G. NORMAN MEACHEN showed a case of *Urticaria pigmentosa*. The patient was a boy, aged 2 years and 3 months. The first spot was noticed by the mother upon the left shoulder at the age of three and a half months. He was entirely breast-fed up to the usual period, and he was vaccinated when eight weeks old. At the time of the meeting there were numerous macular, yellowish-brown stains scattered about the trunk, limbs, and face. These were quite typical of the condition, and friction was able to restore their wheal-like character. Few, if any, fresh lesions now appeared; the old places, according to the mother, "kept on coming up again." He was a well-nourished boy, with a left congenital coloboma iridis.

Dr. J. M. H. MACLEOD showed a widely distributed case of *Xanthoma tuberosum multiplex* associated with peculiar changes in certain joints of an osteo-arthritic type, in a man, aged 40 years. The patient was a spare man and of medium height. He had spent most of his life as a labourer, and his florid complexion indicated much exposure to inclement weather. His family history, so far as could be ascertained, had no ætiological bearing on his present condition. At the age of thirteen he had had a mild attack of smallpox; between thirteen and twenty, when his present affection first showed itself, he had enjoyed excellent health. About twenty, when he was working on a railway in Wales, he first noticed the presence of yellowish patches on the sides of his neck, which were unassociated with subjective symptoms, and about the same time he began to suffer from discomfort and slight pain in his wrist, and knees. Since the disease first showed itself he has enjoyed fairly good general health, and has had no sickness, jaundice, pyrexia, or other constitutional symptom.

The condition at present is a most striking one. There is an extensive and markedly symmetrical eruption of xanthomatous lesions, in the form of flat papules or nodules varying in size from a lentil to a bean, and irregular patches or sheets situated on the flexors of both elbows, the axillæ and around it for three or four inches, the neck, around the eyes and the mouth, and on the hips and over the sacrum. These lesions are yellowish or dull orange in tint, smooth on the surface, and of a tough and almost cartilaginous consistence. In addition to the patches are innumerable small, well-defined macules about the size of a lentil, and pinkish in colour; these appear to be the initial lesions, and become gradually raised, assume a yellowish opaque appearance, and become transformed into the typical lesions of xanthoma. In front of the axillæ, from the movements of the joints, the patches have become broken up by deeply penetrating fissures and present a septic papillomatous appearance caused by the secondary inoculation of pus-organisms. The joint changes, which have progressed simultaneously with the skin-lesions, are equally remarkable. They have developed gradually and insidiously, and it is only comparatively recently that those in the wrist-joints have prevented him from doing a full day's labour. The joints most markedly involved are the elbows, knees, and wrists. Clinically, they are deformed and swollen. In front of the right wrist there is a hard mass about the size of a hen's egg, which so interferes with flexion of the joint that he is no longer able to use a pick or hammer. On the ulnar side of the arm there is an oval mass about the size of a pigeon's egg which feels hard like bone. Somewhat similar growths are present in the other affected joints. Radiograms of the joints showed irregularities and erosions in the bones, with faint shadows opposite the positions of the hard nodules, indicating that they were either cartilaginous or callus in co-existence and were not completely ossified. There was no definite ankylosis of the joints, and the whole appearance was such as to suggest that the changes had begun in the cartilages and synovial membranes as well as possibly in the bone itself. A physical examination of the patient failed to reveal any general derangement which might in any way account for the condition. The liver was not enlarged and there was no evidence or history of jaundice. The urine was examined on several occasions and contained neither albumen, sugar, nor excess of urobilin. A biopsy has been made, but the microscopical examination was not yet completed; the results of it would be reported subsequently.

Dr. Winkelried Williams showed a case of *canities*. The patient was a woman, aged 29 years, whose hair was falling and prematurely white. It began twelve years ago as a Seborrhœa oleosa with interludes of dry dandruff, lasting for three years, when the hair began to fall rapidly. The scalp was then treated for nearly three years with daily washings with soft soap and spirit dressings. Five years ago the hair turned rapidly white in the frontal area. An area of about three inches from the forehead consisted of white ringed hairs. There had been no neuralgia or any symptom suggesting a cause of this localisation. A few grey hairs were scattered over rest of scalp. The white hairs were very loose, and showed atrophic bulbs resembling those of Alopecia areata.

The point of interest was the peculiar distribution of the greyness, and the question as to whether the seborrhœa or the prolonged excessive use of alkali soap washing had any ætiological relationship with the greyness. The patient had a sister similarly affected. The patient has a rather full thyroid gland. Hairs stained by Gram's method showed practically no organisms.

Members expressed the opinion that the white patch was not connected with the seborrhœa nor with the frequent washing.

OBITUARY.

PHILIPP JOSEF PICK.

Born 1834. Died 1910.

We cannot omit the sad opportunity of recording the loss that dermatology has sustained by the death of Hofrath Dr. Philipp Josef Pick, who died suddenly in Prague on June 3rd, 1910, in his seventy-sixth year.

Pick was born in 1834, qualified in Vienna in 1866, soon after which he became an assistant to v. Hebra and later as "docent" settled in Prague, where he gradually worked his way up to become professor of the university of that town for skin and venereal diseases, an office which he held till 1906.

His special work in dermatology is known to all who take an interest in the subject, and his name will be ever associated with the "erythromelie" which is described after him. When Pick wrote his paper on "Erythromelie" it was considered a distinct type of skin disease, but of late years it has been found to be a prodromal phenomenon of idiopathic atrophy, a conclusion which Pick himself came to.

But the most important of all Pick's work for dermatology was the founding of the *Archiv für Dermatologie und Syphilis,* which has already passed its hundredth volume and is generally recognised as being the pioneer of dermatological journals.

Pick was a member of numerous societies, both German and foreign, and was one of the most popular and considered to be one of the best teachers of his time. J. McD.

CURRENT LITERATURE.

A CASE OF ANÆSTHETIC LEPROSY WITH PEMPHIGUS LEPROSUS. R. Stein. (*Wien. med. Wochens.*, June, 1910, No. 28, p. 1657.)

This case was shown before the Society for Internal Medicine and Children's Diseases of Vienna.

Family history.—The father is living and healthy, although he had lived and slept with his wife for twelve years, who was suffering from severe leprosy, of which she ultimately died. The leper was his first wife, who bore him three sons, all of whom are healthy. The patient, a girl, was the fifth child, now aged 20 years.

The mother showed no signs of the disease until she was twenty-four, and it was before the disease had first made itself manifest that the three sons were born. During the seventh month of her fourth pregnancy she noticed some brownish-red spots on the face; the child was born at normal time, but died three months later of some internal complaint.

In two years the disease had spread all over the face, arms, and legs, and for the rest of her (mother) life she was troubled with a purulent nasal discharge and had areas of anæsthesia on the arms.

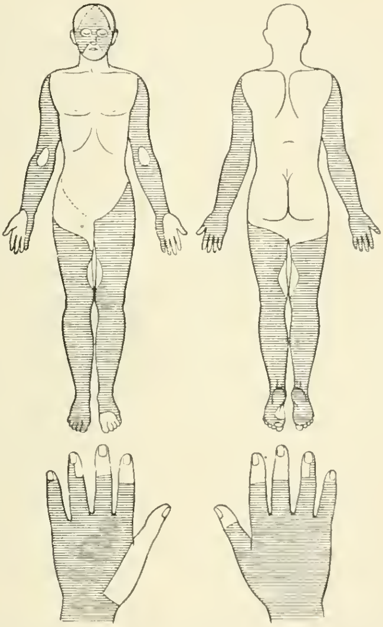
The fifth pregnancy occurred after the mother had been ill five years; it resulted in the full-time birth of an apparently normal child, which the mother weaned.

Death did not ensue until nine years later, at the age of thirty-six.

Anamnesis of case.—The patient was healthy up to the time that she fell on her left elbow at the age of six, which resulted in a blister, later becoming an ulcer, which eventually healed; but while under treatment it was noticed that there were anæsthetic areas on both arms and thighs. For some years following bullæ used to appear on these anæsthetic areas, and invariably became ulcerated, and subsequently cicatrised.

Later the eyelashes and hair of the eyebrows and head fell out, the eyes became affected, also the nose, and atrophy of the muscles of the right hand set in.

Status præsens.—Cranium slightly rachitic. Upper eyelids œdematous. No eyelashes or hair on eyebrows. Keratitis of both eyes and iritis and cyclitis of the left.



The shading corresponds to the areas of sensory disturbance.

The facial expression is, as Kalindero described, "the mask of anæsthetic leprosy." The skin of the face is covered with telangiectases.

Examination of the nose revealed Rhinitis specifica with perforation of the septum, and Leproma epiglottidis.

In the nasal secretion, by using the antiformin method, leprosy bacilli were always to be found.

The skin was covered with non-pigmented scars, each surrounded by a pigmented zone; in other parts there were ulcers, which showed no sign of healing, and underneath the big toe was an ulcer of the perforating type.

The muscular atrophy affected those muscles supplied by the ulnar nerve.

On both sides the ulnar nerve was more than distinctly palpable when felt behind the internal condyle of humerus.

The accompanying figures (see p. 271) will demonstrate better than a description the amount of anæsthesia the patient had.

The shading corresponds to areas of anæsthesia, slight hyperæsthesia against tactile stimulus, complete analgesia and thermanæsthesia.

Since leprosy bacilli were not found in the bullæ or pus from the ulcers, Stein regards their origin as being trophoneurotic and not directly leprous.

The appearance of fresh bullæ was always ushered in with fever, headache, vomiting and profuse diarrhœa.

J. McD.

CHALK METASTASES IN THE SKIN. J. JADASSOHN. (*Archiv f. Derm. u. Syph.*, Bd. c. Heft 1–3.)

THE case described was a boy, aged 12 years, healthy in every way until he received a hard blow on the chest. From this time the boy began to waste. Two months later small red papules appeared in the skin on both knees, and a week later on the elbows and shoulders; vesicles, pustules and abscesses developed in the above situations. Before death, which occurred after a three months' illness, the papules had given place to plaques the size of a child's palm, which were rough on the surface, of normal colour, and characterised by a fine network of yellowish-white lines, which seemed to lie directly under the epidermis, which was raised above the surface of the skin.

The whole felt hard and parchment-like.

The lesions gave rise to no inconvenience except a slight itching.

The boy died of osteomyelitis purulenta of the pelvis and ribs, with multiple abscesses in the internal organs.

It was first at the post-mortem examination that the skin-lesions were found to be due to calcification.

The histology was characterised by small depositions of chalk in the cutis, some of which had extended upwards, pushing the epidermis before it, until in places it had given way, causing fissures.

The chalk masses gave rise to little or no inflammation and nowhere was there a giant cell to be found.

The chalk was situated in the elastic fibres and had undoubtedly formed a chemical combination with the elastin.

The chalk was mostly the calcium phosphate.

In all, Jadassohn had three cases, resembling each other in every detail, and all the patients died of a general coccal affection.

J. McD.

BROCQ'S DISEASE (ERYTHRODERMIE PITYRIASIQUE EN PLAQUES DISSEMINEES), WITH SOME REMARKS CONCERNING THE QUESTION OF PARAPSORIASIS. G. ARNDT. (*Archiv f. Derm. u. Syph.*, Bd. c. Heft 1–3.)

THE Erythrodermie pityriasique was first described by Brocq in the year 1897, a disease characterised by its chronicity and by its not responding to treatment. The lesions show preference for the trunk and limbs, are irregular, sharply circumscribed, round, oval, or linear, smooth, or covered with very fine scales, pale in colour or red, may or may not itch. In the year 1902 Brocq changed the name to Parapsoriasis en plaques. The group parapsoriasis has three subdivisions:

(1) Parapsoriasis en gouttes; (2) Parapsoriasis lichénoide—the Parakeratosis variegata of Unna and others, and the Lichen variegatus of Crocker; (3) Parapsoriasis en plaques—the Xantho-erythrodermia perstans of Crocker. Arndt describes cases which have appeared in the French, English, American, Italian, and German literature, with a full account of eight cases of his own. Concerning the ætiology nothing is known. The disease is not infectious, and usually affects healthy individuals. It can occur at any age and affects the sexes equally. The disease lasts months or even years, undergoing no change; it can spontaneously disappear, and cases have been recorded with remissions and exacerbations. The peculiar wrinkled appearance of the skin which some of the lesions leave suggests the relationship between this disease and the Atrophia cutis idiopathica. The histology of both shows the view to be incorrect, since in the latter there is a marked infiltration in the upper and middle parts of the corium, which contains a few plasma-cells; in the former the infiltration is limited to the upper layers of the cutis, and contains no plasma-cells. The histology is in no way characteristic, and the parakeratosis, so typical of psoriasis, is absent.

The difficulty of separating the scales serves to distinguish the disease from psoriasis, and on separating the scales there is no hæmorrhage. The nails are never affected.

There being no predilection for the præsternal region and the middle part of the back, the head and face remaining free, also the flexor surfaces of joints, serve to distinguish it from seborrhœic eczema. The distinction Arndt draws between Erythrodermie pityriasique and the Parapsoriasis en gouttes lies in the typical stages which occur in the development of the latter, viz. smooth, often infiltrated papules, psoriasiform scaly papules, smooth and bran-like scales which are easily removable—in short, in the Parapsoriasis en gouttes the diagnosis usually made is Psoriasis guttata or a papulo-squamous syphilide.

The Parakeratosis variegata is distinguished from the Erythrodermie pityriasique by its round or more polygonal form, the surface appearing shiny when looked at obliquely, resembling Lichen ruber planus, and the lesions have a great tendency to form semicircles, whilst other lesions are linear, the lines frequently crossing one another, forming a net-like appearance. The disease to which Erythrodermie pityriasique bears the greatest resemblance is Pityriasis rosea. The sudden appearance, often preceded by a primitive plaque, serves to distinguish the two. So far as the cure of the disease is concerned the prognosis is bad, the treatment advised being ointments containing pyrogallic acid, chrysarobin, and sulphur, the last also in the form of baths.

J. McD.

THE TREATMENT OF LUPUS VULGARIS. Doutrelepont. (*Archiv f. Derm. u. Syph.*, Bd. c, Heft 1–3.)

In the following article Doutrelepont gives his experience of the treatment of lupus after fifty years of practice. The surgical treatment has the danger, by opening the blood- and lymph-vessels, of favouring the spread of the tubercle bacillus, except in the case of a small lesion which can be totally excised. New tuberculin is strongly advocated; since its discovery it has been used in every case without any untoward result. From a cosmetic point of view no treatment is as satisfactory as the Finsen light. It has the disadvantage in that it must be extended over a very long time. Emphasis is laid on general treatment, *i.e.*

environment. nutrition. arsenic and iron internally. For local treatment 1 per cent. sublimate poultices are advocated ; better still is pyrogallic acid in the form of a 10 per cent. ointment kept on for four days and renewed after a few applications of the sublimate poultices. In the non-ulcerated forms painting with caustic potash is useful before commencing the pyrogallic acid.

Primary treatment by means of the Quartz lamp diminishes the pain of the pyrogallic acid. Fibrolysin has proved of use in softening the lupus scars. Lupus of the nose, starting almost invariably in the mucous membrane of the interior, necessitates painting with 1 per cent. sublimate several times a day. Lupus of the nasal duct is best treated by sounding the lachrimal ducts and injecting iodoform glycerine into the sac. Lupus of the gums and hard and soft palates is best treated by frequent applications of lactic acid. tincture of iodine. or 1 per cent. sublimate solution. Tuberculin treatment is commenced with $\frac{1}{500}$ mgrm. and increased gradually every second day with $\frac{1}{500}$ mgrm., the maximum dose not reaching over 2 mgrm. To make quite sure that the cure is complete. old tuberculin is employed for a diagnostic purpose.

J. McD.

CONCERNING PECULIAR HISTOLOGICAL FEATURES IN SKIN-TUBERCULOSIS AND THE RELATIONSHIP THEY BEAR TO BENIGN MILIARLUPOID (BOECK). J. Kyrle. (*Archiv f. Derm. u. Syph.*, Bd. c, Heft 1–3.)

Kyrle commences by referring to the points which go to make up a diagnosis of a tubercular lesion of the skin. In discussing animal experiments he draws attention to the most important point, that old guinea-pigs show a much greater resistance than young. Further, that a non-positive microscopic evidence of tuberculosis is no criterion that the guinea-pig has not got tubercle ; to be certain, histological examination must be made, especially of the inoculation site and the lymphatic glands draining it. It is possible for a guinea-pig as long as one year after inoculation to show evidence of tubercle bacilli at the inoculation site only. The disease which Boeck described as " benign sarkoid," later as " miliarlupoid," has now been shown to be tubercular, because a case gave a positive animal result. Kyrle's case was a woman, aged 32 years, who had no signs of tuberculosis, nor a family history of such. The skin-lesions commenced on the forehead as reddish-brown spots which extended to form a circle, becoming pale in the centre ; similar lesions affected the neck, left knee, and palms of hands ; the tip of the nose was swollen and appeared as if congested. The diagnosis rested between Lupus erythematosus, tuberculosis, and syphilis. The nose favoured tuberculosis, resembling, as it did somewhat, Lupus pernio, but injections with old tuberculin never gave a reaction. In section no tubercle bacilli were found, but inoculation experiments, being positive, showed the supposed diagnosis of tuberculosis to be correct ; so different can the clinical picture of Boeck's disease be that one must rely on the histological features peculiar to it. The histology of Boeck's disease is characterised by an infiltration of epithelioid cells with giant-cell formation in their centre, but no surrounding zone of small round cells. The histology of Kyrle's case resembles in every way that of Boeck's disease. A patient with true Lupus vulgaris may have another lesion which, when histologically examined, shows absence of a leucocytic zone around the epithelioid cells. There are probably stages, then, between Boeck's lupoid and the usual Lupus vulgaris, the difference probably lying in the diminished virulence of the tubercle bacilli in the former, which is certainly borne out in Kyrle's case, since no positive signs of tubercle were found in a guinea-pig until ten months after inoculation.

J. McD.

LUPUS PERNIO. A. KÜHLMANN. (*Archiv f. Derm. u. Syph.*, Bd. c, Heft 1–3.)

BESNIER, in 1888, first described this condition, but considered it to be a variety of Lupus erythematosus. Tenneson and Jarisch regarded it rightly as a tuberculous change, therefore more closely related to Lupus vulgaris.

The case recorded was a man, aged 46 years, whose nose, both cheeks, and fingers were affected. There was no manifestation of tubercle elsewhere. The lesions became worse in the winter time. A radiogram of the hands shows a thickening of the compact and spongy tissue of the phalanges, and the whole substance of the bone was clearer than usual, as if decalcification had set in. This thickening, which affected only the phalanges, was due to a chronic periostitis. The lesion partly depends upon congestion from the swelling of the joints. The histology is characterised by an infiltration in the deeper layers of the cutis; the infiltration is sharply circumscribed and consists mainly of epithelioid cells, outside which are numerous round cells. Giant cells are rare, and nowhere is there caseation.

J. McD.

KERATOSIS FOLLICULARIS MORROW-BROOKE. F. LEWANDOWSKY. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 1.)

THE case described affected a negro—the first on record. The patient had had the eruption since childhood; it had given rise to no symptoms, and an hereditary history could not be ascertained. The regions most affected were the extremities, especially the extensor surfaces thereof, also the knees, gluteal regions, and the dorsum of the first phalanges of the fingers. The exanthem consisted of papules about the size of a pin's head; the centre of each had a horny process, and looked not unlike a comedo. The horny process could be easily squeezed out.

Histological examination showed marked hyperkeratosis, a widening of the hair-follicle filled with horny material, in the middle of which was a lanugo hair.

The diagnosis of Lichen spinulosus was discarded owing to the marked inflammatory signs at the commencement. Further, Lichen spinulosus occurred in groups, while Keratosis follicularis was a diffuse eruption. Hyperkeratosis was the feature of Keratosis follicularis, and parakeratosis that of Lichen spinulosus. Darier's disease could be put out of court, owing to the fact that the inguinal regions, genitals, abdomen, and head were free. Since Darier's "bodies" were not typical only of the disease which bears his name, the presence of such in the case described spoke neither for nor against a diagnosis of Keratosis follicularis.

J. McD.

THE DISINFECTING POWER OF SOAPS. W. SCHOLTZ and A. GELAIRE. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 1.)

THE author showed that the irritating effect that many soaps possess was solely dependent on the free alkali therein. The disinfecting power of soaps was found to depend very largely on the antiseptic action of the soap-substance itself, and was not so much dependent upon the quantity of alkali present as had been previously thought. The disinfecting power of albumose soap and sapo viridis against staphylococci was small. The scented soaps had a greater antiseptic power, owing to the presence of the perfume. The bactericidal power of such scents was greater when they were incorporated in the soap than when tested alone. Antiseptic substances, such as sublimate, sublamin, and carbolic acid, lost some of their antiseptic properties when added to a soap.

J. McD.

THE USE OF KROMAYER'S QUARTZ LAMP IN ECZEMA. W. RAVE. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 1.)

KROMAYER'S qaurtz lamp was found to be extremely useful in curing stubborn eczematous patches which had resisted the usual treatment and had not even responded to the X-rays; in pustular eczema, especially of the head and chin (sycosis); in also the chronic infiltrated eczemas. Of the three types mentioned the first responded most readily to the treatment.

J. McD.

TERTIARY YAWS. A. A. MONTAGU. (*Journ. of Trop. Med.*, June, 1910, p. 161.)

THE Fiji Islands are peculiarly suitable ground for the study of frambœsia and its relation to syphilis, because while syphilis is almost or quite unknown among the Fijian population, yaws is exceedingly common. Fiji differs entirely from most of the other frambœsial centres of the world, as in them the two diseases are equally prevalent, and there is therefore great difficulty in deciding to which disease manifestations of the "tertiary type" should be attributed.

A common mode of onset for frambœsia is for a large yaw to develop round a simple ulcer, which is presumably the point of inoculation. The ulcer becomes callous, shows no signs of healing, but otherwise possesses no specific peculiarity. A few weeks later the yaws develop in different parts of the body, and the disease runs the well-known course, with repeated recrudescences of the eruption.

Apart from crab yaws, which are frequently seen twenty years or more after the original attack of frambœsia, the following lesions are the commonest:

Two types of ulceration of the skin occur. In one a patch of nodules develops. These soften and generally discharge by a small opening at the apex, which communicates with a soft necrosing mass (not caseous) about the size of a pea or larger. As they heal further crops occur around the circumference of the patch. The skin in the neighbourhood of the nodules is healthy or only slightly inflamed, and the resulting scars are firm and healthy. The disease advances much more rapidly than lupus, and in a few months covers a large area. In the other type there is seen an advancing, raised, abrupt edge of ulceration at one or more parts of the circumference of a firmly scarred patch. These two types, between which there are many intermediary ones, occur on all parts of the body, most commonly on the face and limbs, but frequently also on the back and chest. They advance rapidly, are only very slightly painful, and lead to very gross disfigurement. Both varieties also attack the mucous membrane of the nose, palate, and pharynx.

The nodules may extend into the hard palate, which is frequently perforated; the soft palate is often completely destroyed, the septum nasi perforated, and portions of the ethmoid and vomer necrose. When they heal they frequently lead to the attachment of the remains of the soft palate to the back of the pharynx, and separation, generally incomplete, of the oral and nasal chambers. Periosteal nodes are very common. These occur on all the long bones, but most commonly those of the leg or forearm. If they are near the middle of the bone they cause great thickening at these parts, and if they occur near the end of the above in the young, lead to the lengthening of the bone, and in the tibia, bowing.

Nodules, like those in the skin, are also found in the bones, particularly the sternum and bones of the calvarium. When opened they lead to cavities running some distance in the bones, often perforating the sternum, and surrounded by firm healthy bone. Necrosis of bone, on the other hand, is extremely rare. More rarely large indurated masses occur in the muscles.

"These cases are attributed to the long antecedent frambœsia for the following reasons: Frambœsia is almost universal among Fijians, and many of these lesions are very common among them. Many of these lesions have also been found to occur subsequently in Europeans who have contracted frambœsia. Their great similarity to the lesions of tertiary syphilis, which is in consonance with the similarity in the earlier stages of the two diseases, and particularly the remarkable effect that the iodides have on them, is very marked. The disease is almost invariably arrested, and the lesions heal in a short time.

"It appears probable that the great liability of frambœsia to be followed by these sequelæ would have been more widely recognised than it is but for the fact that syphilis is so very prevalent in all other localities where frambœsia occurs. Under these circumstances it has been the habit to attribute all these conditions to syphilis, because the lesions are in every respect similar to those of syphilis, and are equally benefited by the same class of drugs."

J. M. H. M.

A CONTRIBUTION TO THE PATHOLOGICAL ANATOMY OF LUPUS ERYTHEMATOSUS OF THE MUCOSÆ. Pautrier and Fage. (*Ann. de Derm. et de Syph.*, December, 1909, p. 673.)

Biopsies were obtained in four cases of Lupus erythematosus of the mucous membrane. In the first case, a lesion of the lip, examination showed an irregular thickening of the epidermis and cornification of the mucosa, and a very deep infiltration of the corium with inflammatory cells, together with dilatation of the vessels. The infiltrating cells were chiefly lymphocytes and connective-tissue cells, with a considerable number of plasma-cells and very few mast-cells.

The collagen and elastic fibres were normal except in the position of densest infiltration, where they were rarefied and apparently in process of being destroyed.

In the second case, from the mucous membrane of the mouth, the epidermis was markedly involved; there was hyperacanthosis and hyperkeratosis. The corium was much less infiltrated than in the preceding case.

In the third case, a lesion of the tongue as well as lesions of the skin and the mucous membrane of the lip were examined. That of the tongue showed much keratinisation of the epidermis and hyperacanthosis. In the corium there was dilatation of existing vessels and apparently new formation of capillaries; there was a superficial infiltration with lymphocytes, connective-tissue cells, and a few plasma-cells.

In the fourth case the appearances were very similar to those just described.

Figures illustrating the clinical aspect and the histological appearances of one of the cases under a low and a high power are included in the text.

E. G. L.

THE CULTIVATION OF THE LEPROSY BACILLUS. M. T. Clegg. (*Philippine Journ. of Diseases*, 1909, vol. iv, p. 403.)

In a preliminary report at the Sixth Annual Meeting of the Philippine Islands Medical Association in February, 1909, the writer stated that he had succeeded in cultivating from the spleen and skin-nodules of typical cases of leprosy an acid-fast bacillus which grew on agar in symbiosis with amœbæ. The amœbæ were obtained from a dysenteric stool, and were cultivated with the cholera vibrio. Since then he has obtained similar cultures in three additional cases, and from two of these the acid-fast organism has finally been isolated in pure culture. As it was thought possible that the acid-fast organism had been growing originally with the amœbæ in the human colon, amœbæ from tap-water were cultivated with the cholera vibrio, and these cultures were inoculated with leprous material and the same acid-fast organism was grown. The technique employed is described in detail. The separation of the acid-fast bacilli from the amœbæ and cholera vibrios was accomplished by killing the two latter organisms by subjecting the mixed cultures to a temperature of 60° C. for half an hour, the acid-fast bacilli not being killed. Sub-cultures were then made on agar, potato, and various other media, giving pure cultures of the acid-fast organism. Guinea-pigs inoculated subcutaneously with the pure culture developed, in some instances, lesions at the site of inoculation bearing a certain resemblance to leprous lesions in man, both clinically and microscopically, and the bacilli were found at the site of inoculation and in the spleen. In one instance the acid-fast organism was cultivated from a lesion in the guinea-pig. The inoculated guinea-pigs invariably died during the third or fourth week after inoculation. Inoculations into monkeys gave negative results.

J. M. H. M.

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THE BRITISH
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SEPTEMBER, 1910.

ON THE RELATIONSHIP BETWEEN ROSEOLA SYPHILITICA AND SOME OTHER SYPHILIDES: LEUCODERMA SYPHILITICUM; THE EARLY CIRCINATE SYPHILIDE; THE SMALL FOLLICULAR SYPHILIDE.

By H. G. ADAMSON, M.D.,
Physician in Charge of the Skin-Department at St. Bartholomew's Hospital.

Syphilitic eruptions are so multiform in aspect that any observations which indicate a relationship between apparently different types must be, apart from their scientific interest, of practical value as tending to simplify a complicated subject.

Roseola Syphilitica and Leucoderma Syphiliticum.

It is now admitted by may authorities that Leucoderma syphiliticum is a sequela of the macular roseola. Brandweiner, in a recent monograph dealing with 421 personally observed cases of leucoderma syphiliticum, makes the statement that "a typical leucoderma develops always from a macular eruption, not from a papule; the latter tending rather to leave hyper-pigmentation." The writer has recently observed several cases which have presented an early macular syphilide upon the trunk and neck, and in which there was also upon the neck the early stage of the development of a leucoderma syphiliticum. The evolution of the leucodermic areas from the roseola macules could be easily demonstrated. Some of the macules on the neck had commenced to pale at their margins; others had been already replaced entirely by white areas, while some of the white areas had at their centre a hyperpigmented spot. This well-known hyperpigmented central spot is explained by Brandweiner as the sequela of a more marked infiltration at the centre of the macule, in agreement with the rule that a papular lesion tends to leave pigment, and that less infiltrated or macular lesions tend to remove it.

The accompanying photograph (Fig. 1) of a fully developed leucoderma syphiliticum is reproduced only to show how the leucodermic patches in their general arrangement correspond with that of the roseola macules. It is not possible to illustrate by photography the transition stage.

Roseola Syphilitica and the Early Circinate Syphilide (or Annular or Arciform Syphilide).

Writers on syphilis describe several forms of circinate syphilide. That to which the above titles are given is an early eruption occurring especially upon the face, about the mouth, nose, and chin, in the form of pale, yellowish-red, slightly scaly rings, arcs of circles, or gyrate figures. It is said to be rare, but pathognomonic of syphilis. It may sometimes be seen upon the forehead or upon the neck, but it is to be distinguished from Unna's seborrhoic syphilide, which is more infiltrated and the scales of which are more greasy, and which is usually a later form, and one which is much more rebellious to treatment. It should also be distinguished from the late form of circinate syphilide, which may occur upon the trunk, or limbs, or scrotum, or palms, and which is also rebellious to treatment.

Fournier describes six forms of circinate syphilide occurring in the early stages of syphilis, and his third group, which he calls "syphilide en arceaux conjugés," which he says is very uncommon, very bizarre, and in itself very significant, is evidently the eruption with which I am now concerned. Many writers are not explicit in regard to this early circinate syphilide, but Stelwagon gives a good account of it, and also an excellent photograph. Darier also pictures it, and gives a concise description.

The point which I would emphasise is that this early syphilide is evolved from the early macular syphilide. Fournier makes no mention of this connection between the two eruptions, nor, so far as

I can discover, do other writers, except Stelwagon, who, in describing the roseola, says that "in a few instances there are associated maculo-papular or papular lesions about the mouth, chin, and neck, which exhibit a tendency to annular configuration (annular or circinate syphiloderm)." Again, when describing the annular or arciform syphilide, after stating that "it seems to have its origin from an ordinary, usually scaleless, or slightly scaly, large papule, the central portion of which has been incompletely formed, or has become sunken or flattened," he says that "it is also seen occasionally in association with the macular eruption, in which the band-like ring is but slightly elevated."

The following cases, photographs of which are here produced, illustrate the association of this early circinate syphilide with the roseola.

Case 1.—Annie B—, aged 29 years, presented (November, 1909) a well-marked early macular roseola on the trunk. On the face there was a typical early circinate syphilide. The lesions were scarcely more than macules, with a raised and slightly scaly margin. Three of the lesions on the right cheek had a darker central spot (well seen in the photograph). This dark spot was a flattened papule, and corresponded to the central dark spot in Leucoderma syphiliticum, already referred to as being the sequel of a central cell-infiltration in the macule. Under treatment for the general syphilitic condition (intra-muscular injections of mercury salicylate) the circinate eruption rapidly cleared up (Fig. 2).

Case 2.—Edith McR—, aged 22 years (January, 1910). On the chin, cheeks, and forehead there was a characteristic circinate syphilide. Many of the scaly rings had a central papule. Over the trunk was a well-marked macular roseola, and there were a few scaly, ringed patches on the arms, each evidently a further stage of the macule. The eruption disappeared rapidly under treatment by injections of salicylate of mercury (Fig. 3).

Case 3.—Caroline T—, aged 30 years (April, 1910), presented on the face a typical circinate syphilide, and on the trunk a well-marked macular eruption. Here also the central dark spot was seen in some of the rings. The eruption rapidly cleared up under mercury salicylate injections (Fig. 4).

The Small Follicular Syphilide and Roseola.

The small follicular syphilide (Lichen syphiliticus) is a well-known though somewhat rare eruption occurring during the early stages of syphilis, but, because of its resistance to treatment, seen also in the second year. The eruption consists of pin-head-sized follicular papules arranged in groups, which may be few or many, and intermixed or not with a lenticular papular eruption. The suggestion which I here wish to make is that this eruption is, like the leucoderma syphiliticum and the early circinate eruption, a further stage of evolution of the roseola. The grouping of the small papules, and the distribution of the groups point in this direction. Further, it is known that a roseola macule is, histologically, not a macule, but that there is a distinct, though often slight, cell infiltration, and that this is always more marked around the follicles. There is also a type of macule which has been called "Roseola granulata," and by French writers "Roseole piquetée," in which, in the area of the macule, every follicle is slightly reddened and raised in goose-skin-like fashion. This may be regarded as an attempt at formation of a grouped follicular syphilide, and in several instances I have seen this condition of Roseola granulata evolve into definite patches of follicular papules. The cases observed have, however, been under treatment, and no generalised nor persistent small follicular syphilide has been permitted to develop.

The following cases illustrate the development of patches of follicular syphilide from macules of roseola :

(1) John S—, aged 42 years, presented a typical macular roseola on the trunk, which, passing on to the limbs, there formed a few circinate patches like the early circinate syphilide of the face. It was noted that in some of the macules on the trunk the follicles were red and raised. Under treatment the macular and circinate eruption disappeared, but there remained several groups of follicular papules, intermixed with some lenticular papules of more recent origin. The follicular patches and the lenticular papules soon disappeared under treatment.

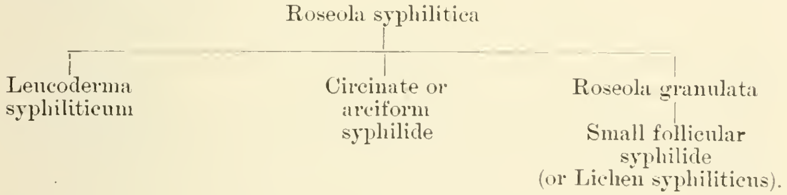
(2) Mary P—, in December, 1909, presented a roseola and also several groups of follicular papules on the back. In May, 1910, the

follicular eruption had disappeared. A typical Leucoderma syphiliticum had developed on the neck.

(3) Margaret J— showed a fading macular roseola on the trunk. On the neck several leucodermic areas and some roseola macules with paling margins, *i. e.* a transition stage between the macule and the leucodermic patch. On the trunk, intermixed with the macules of the fading roseola, there were some half-dozen groups of small follicular papules, the grouping of the papules suggesting their origin over the area of a fading macule. No further development of this small follicular syphilide took place, probably because the patient was undergoing a course of intra-muscular injections.

It must be admitted that the proof of the evolution of the small follicular syphilide from the roseola is not so clear as for the leucodermic and early circinate syphilides, but the facts I have mentioned strongly suggest that such is its origin.

The genesis of these three syphilides from Roseola syphilitica may be indicated as follows :


Roseola syphilitica
Leucoderma syphiliticum
Circinate or arciform syphilide
Roseola granulata
Small follicular syphilide (or Lichen syphiliticus).

Description of Plates.

Fig. 1.—Leucoderma syphiliticum, showing general arrangement of the leucodermic patches corresponding to that of the macules of a roseola.

Fig. 2.—Early circinate syphilide. This eruption formed part of the early macular roseola, which was well-marked upon the trunk. Note the central dark spots in three lesions on the right cheek (Case 1).

Fig. 3.—Shows the early circinate syphilide upon the face and the macular syphilide upon the trunk (Case 2).

Fig. 4.—Shows the early circinate syphilide upon the face and the macular syphilide upon the trunk (Case 3).

MOLLUSCUM CONTAGIOSUM AND ITS DISTRIBUTION.

By NORMAN WALKER.

I have read with much interest Dr. Graham Little's paper on Molluscum contagiosum in last month's Journal and his suggestive remarks on the distribution of the disease. The reference to my own report to Dr. Hall has led me to look more closely into the matter, and has demonstrated to me how much impressions may vary from facts. Since January, 1908, the records of my hospital cases have been registered in a way which greatly facilitates statistical inquiry. In 1908 we had fourteen cases of molluscum, in 1909 twelve, and in the six months to June 30th, 1910, twelve. In 1908 it is recorded of only two cases that they frequented swimming baths; later, more attention was paid to this matter, and the fact is recorded of seven of the twelve in 1909 and of six of the twelve in the half year 1910. One patient, the oldest of all (58), told me he sweated so freely he did not require baths! In his case the lesion was on the forehead and was discovered accidentally: he came to hospital on account of eczema of his hands.

In addition to these cases one of the patients reported that some of his school-fellows were affected, and at my request Dr. Low investigated the matter with the help of the head master of the school. Five cases were discovered, all of them regular bathers. The superintendent of another bath was interested in the matter and he reported five cases, some probably duplicates. He says: "The towels are disinfected with carbolic acid and steam; the only thing I can think of are the rings and horizontal bars. The boys very often sit in the rings and use the bars while in their bathing pants." In several of the cases the back of the knees have been affected. During the period under review I have had two cases in private, one a little of girl, aged 2 years, and the other, a young lady, aged 23 years; in neither could I trace any connection with swimming baths.

Altogether, then, I have had no fewer than forty-five cases in two and a half years, a number greatly exceeding the proportions mentioned by Dr. Little. The actual figures for my strictly hospital cases are 38 out of 4977, seventeen times his figures. The age-incidence was as follows: under 5, two cases; 5–10, eight; 10–15, fifteen;

15–20, four; 20–30, five; 30–40, two; 40–50, one; 50–, 1. Thirty-nine cases came from Edinburgh, four from Leith, one from Dalkeith, and one gave no fixed address.

In the statistics of the Glasgow Skin Hospital, published just about the date of McCall Anderson's death, and giving the figures for the forty-six years' existence of the Hospital, Molluscum contagiosum appears thirty-two times out of 61,496 cases.

I am interested in Dr. Christie's remark about the fish workers of Aberdeen. These girls are not fisher maidens in the poetic sense of the term, but are employed in gutting the fish, and amazingly skilful they are at it. It is possible that the towels which they presumably use when they have finished their work are the medium of contagion.

Not one of my cases came from Newhaven, which is the fishing centre in this neighbourhood, but our local tradition awards first place among the early observers of Molluscum to the late Dr. Paterson of Leith. On looking up his paper (*Ed. Med. Journ.*, 1841) I find that tradition errs, and that the first local reference to the disease appeared a month previously from the pen of Dr. Henderson, who was Professor of Pathology in the University. It is interesting to note that two of Paterson's cases were from Newhaven (a mother and child). But he says of them: "Particular inquiry was made as to any other members of the family being affected with a similar eruption, but no trace of it could be discovered, and an attempt to find out the source of contagion to the child proved equally unsuccessful; indeed, from the inquiries made, had any similar case existed in the village it must have been discovered . . . We have already mentioned that this disease appears to be entirely British, no case of it having as yet been recorded, in so far as we are at present acquainted, in the records of any other country. It will, doubtless, however, be sooner or later noticed in other countries."

Paterson refers to a group of four cases occurring in the Canongate of Edinburgh in 1821.

It is true that Edinburgh is not far from the sea, but Dr. Little will incur the wrath of its inhabitants if he assumes that Leith is a part of Edinburgh. There is no regularly organised skin-department in Leith Hospital, but Drs. Eason and Edwin Mathew, who have been in charge of its medical out-patient department for the last ten years, both tell me they regard Molluscum contagiosum as "very rare."

Only four of my cases came from Leith, two of them boys, regular attendants at swimming baths, one a child, aged 3 years, and the other a young woman, aged 22 years, described as a machinist.

My experience does not incline me to adopt Dr. Little's suggestion that there is any connection between the disease and seaports; I am much more inclined to look to public baths as the means of its spread, and it would be interesting to inquire into the amount of patronage accorded to these in the different centres. When I was in Damascus some years ago my friend, Dr. Mackinnon, told me it was known locally by an Arabic name, which meant "the itch of the bath." I am almost inclined to claim for Edinburgh a certain amount of credit for the frequency of molluscum in its midst.

THE FUNCTIONS OF THE SKIN.

By M. S. PEMBREY, M.A., M.D.,
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Lecture V.

The most important function of the sweat is the part it plays in the regulation of temperature. When the temperature of the body rises owing to muscular work or to exposure to a hot atmosphere, the loss of heat is increased by the cooling effect of the evaporation of the sweat which is poured out from the orifices of the numerous glands. It is owing to the evaporation of sweat that it is possible to remain exposed to a dry heat many degrees above the temperature of the body. Benjamin Franklin observed, during the hot weather at Philadelphia in 1750, that his temperature remained normal, although the external temperature was 37·8° C. (100·04° F.) in the shade; this result he attributed to the cooling effect of the evaporation of sweat. This explanation was proved to be correct by Blagden and Fordyce during their experiments upon the effect of extreme heat upon man. They remained for fifteen minutes in a dry room, which was heated to 126° C. ($\underset{258.8}{\underline{22}6{\cdot}44}$° F.), and found that their temperatures did not rise above the normal, although the room was so hot that beef steaks were cooked by the heat of the air. Into the heated room two jars of water were brought, and a layer of oil was placed on the surface of the water in one, with the result that the water quickly boiled, owing to the absence of evaporation; on the other hand, the water in the other jar rose to 60° C. (140° F ~~172°~~ F.), but did not boil, evaporation taking place freely from the surface and thus cooling the water. In such hot atmospheres the loss of heat by radiation and conduction has ceased, and the temperature of a man would rise if the evaporation of sweat did not cool the surface of his body. If the air is moist as well as hot, the evaporation of sweat cannot proceed rapidly enough to prevent the temperature of the body from rising.

Nothing demonstrates more clearly this function of the sweat than the effect of absence of sweating when the heat of the body is increased. Zuntz and Teudlau made observations upon a man whose skin was devoid of sweat-glands. His temperature rose to 39° C. (102·2° F.) when he was exposed to the heat of the sun in summer, or when he did muscular work for a short time. The blood-vessels of his skin were dilated in a normal manner, but radiation and conduction were not sufficient to prevent his temperature from rising when he worked. He overcame the serious difficulty caused by the absence of sweat by frequently soaking his shirt in water; the evaporation of the water cooled his skin.

Such a case appears to be rare, but there are many men whose sweat-glands do not respond readily to a rise of temperature. The skin becomes engorged with blood, and there may be much distress until sweat breaks out. In some cases of heat-stroke and of fever there is often an absence of sweat, and sponging the surface of the body with cold water produces a great increase in the loss of heat and a soothing effect upon the nervous system by cooling the terminations of the cutaneous nerves, which form, as has been mentioned already, the most extensive sensory organ of the body.

These questions are so intimately bound up with the question of the temperature of the skin that it will be better to defer further discussion until some data have been given about the temperature of the skin and the variations which it undergoes in different conditions.

The other functions of the sweat must not be overlooked, for it is obvious that there are many sluggish people who do not work hard enough in mild climates to need the cooling effect of sweat. The secretion maintains the skin in a supple condition and preserves the acuteness of its tactile sensibility. Evidence of this can be obtained in two directions; the sensitiveness of the skin is diminished if the surface becomes too dry, and there is a localised sweat upon the snout and pads of many animals, in which these parts are very sensitive.

Another purpose served by the discharge of sweat is the removal of waste substances produced in the body; lactic acid is discharged in considerable quantity in the sweat. The cleansing effect of sweat is remarkable, and many a labourer who never takes a bath and rarely washes more than the extremities of his body is kept clean and healthy, owing to the fact that he works hard enough at times to sweat profusely. Indeed, it would be desirable if there were more sweating from healthy muscular work and less washing with hot water and soap. The natural fatty products of the skin and its glands protect the body from micro-organisms. It is recognised by some that there is a danger in excessive cleanliness and that civilisation may become so extreme that it is pathological.

The Sebaceous Glands now require consideration. They are developed by a down-growth of the *stratum germinativum* of the skin in relation to the hair-follicles, and are distributed over the whole surface of the body, with the exception of the palm of the hand, the sole of the foot, and the dorsal surface of the third phalanges. The simplest form of the gland is a single sac, but more complicated ones are found, in which several diverticula open into a central duct. There are various modifications of the sebaceous gland, such as the Meibomian glands of the eyelids, the wax-glands of the ear, and the uropygial gland at the root of the tail of birds. It is unnecessary to give here details of the minute structure of these different glands, but attention may be drawn to several points which bear directly upon the functions of the sebaceous glands as a group. The outer layer of the cells of the glands shows numerous cases of cell-division; this is important in relation to the view that the secretion is formed by a fatty degeneration of cells cast off into the lumen of the gland and replaced by new cells. The small muscles, *arrectores pilorum*, which are attached to the sheath of the hairs, are so arranged that they may serve the function of expressing the sebaceous secretion or sebum, and they have been called on this account *expressores sebi*. It is further of interest to note that no nerves to the glands have been discovered.

The composition of the sebaceous secretion has not been ascertained exactly by chemical analysis, for it is not easy to collect sufficient quantities of the sebum of man in a pure form. It is necessary, therefore, to rely upon the analyses of the contents of sebaceous cysts or of dermoid cysts of the ovary and the *vernix caseosa* of the fœtus and the *smegma preputii.*

The sebum is an oily material which becomes a cheesy mass upon exposure to the air. It contains only a small quantity of true fats or triglycerides, but consists chiefly of esters and high molecular alcohols, with some protein material and inorganic salts. The secretion is generally mixed with epidermic products, and on this account the analyses of the contents of the uropygial gland of geese are more reliable, for here the sebum can be obtained in a pure form. The secretion of this modified sebaceous gland consists chiefly of octadecylalcohol or stearylalcohol, $C_{18}H_{38}O$, which is the alcohol corresponding to stearic acid, $C_{18}H_{36}O_2$. It is especially noteworthy that no cholesterol or cholesterolester is found in this pure secretion; these substances are derived from the chemical transformation which the epithelium of the skin undergoes during the process of cornification. Lanolin, which is obtained from the wool of sheep, is not a pure sebaceous secretion, but a mixture of sebum and epithelial products. The following table is given by Hoppe-Seyler for the composition of the contents of a distended sebaceous gland in man:

In 1000 parts	water	317·0
,,	epithelium and albumen	617·5
,,	fat	41·6
,,	fatty acids	12·1
,,	ash	11·8

The process of secretion of the sebaceous glands has given rise to some discussion. The view that the sebum is produced by the fatty degeneration of the cells of the gland has been widely held; according to this theory some of the cells are cast off into the lumen of the gland, undergo degeneration, and form the secretion, and at the same time the loss is replaced by the division of the cells nearest to the basement membrane. This view, however, will not explain all the facts. The position of knowledge is, indeed, similar to that which has arisen in connection with the process of secretion in the mammary gland, and it is of great interest to find that there is developmental and morphological as well as physiological evidence to show that the mammary gland is a modification of sebaceous and sweat-glands. Montgomery's glands in the areolæ of the mammæ are modified sebaceous glands or glands intermediate between sebaceous and sweat-glands. During pregnancy and lactation they not only enlarge, but also often yield a secretion resembling milk. Seitz has recorded the cases of two patients in whom a few days after childbirth a hypersecretion of sweat and sebaceous material from a swelling in the axilla presented a close resemblance to milk. The fluid was examined under the microscope, and found to resemble milk in appearance, but, unfortunately, no chemical analyses were made. The secretion only lasted for a few days, but the mammæ continued in full activity. The question whether the swellings were accessory mammæ or inflamed lymphatic glands was carefully considered, but was dismissed by Seitz in favour of excessive activity of the sweat and sebaceous glands of the axilla.

The sebaceous glands are not known to possess any special secretory nerves, and any influence produced by the stimulation of nerves appears to be an indirect one due to vascular changes. In this respect there is a close resemblance with the mammary gland.

The newly born infant often shows a quantity of fatty material, the *vernix caseosa*, upon its forehead, neck, and other parts of its body, but not upon the soles of the feet and the palms of the hands. This is sebaceous matter mixed with cells of the epithelium of the skin and their products. In children there is little secretion from the sebaceous glands, but at puberty there is a great increase in the activity of these glands; this persists during the prime of life, but declines in old age.

There is much clinical evidence of a relationship between the generative organs and the sebaceous glands. Menstruation is frequently associated with a disturbed activity of the sebaceous glands, and it is well known that acne, a disfiguring disease accompanied by abnormal activity of these glands, often disappears in the case of both sexes soon after marriage.

These facts would suggest that the secretion of the sebaceous glands is influenced by products absorbed by the blood from other organs of the body; that the process is one of true secretion similar to that of the mammæ. A fatty degeneration of the cells will not explain the process, for the chemical composition of the material may be altered by the administration of fat in the food. The cells of the glands appear to absorb fat from the blood, and to a certain extent to change its composition before it is discharged into the lumen of the gland; some of the lipoid granules stain with osmic acid, others with Scharlach red and others with safranin, thus affording evidence of differences in chemical composition.

The nature of the food given to animals influences the quality and quantity of the sebaceous material, and thus indirectly the glossiness of their coat of fur or feathers. Experiments which have been made upon geese show that oleic acid is more effective than palmitic acid in stimulating the activity of the uropygial glands, and the administration of an unusual fat in the food causes its reappearance in the secretion of the glands after a few days. Some dermatologists have found that an alteration in the quantity or nature of the fat taken in the food may have a considerable effect upon the secretory activity of the sebaceous glands in man.

The amount of sebaceous material secreted varies in different individuals and in different parts of the skin of the same subject. The skin of the nose and of the forehead produces the most secretion, and estimations of the amount have been made from the quantity absorbed by filter-paper. It would appear from such experiments that the total secretion for the whole cutaneous surface of an adult man varies from ten to thirty grammes per day.

The function of the sebaceous secretion is, in the first place, to supply the skin with a fatty material, which, in conjunction with the cholesterol and cholesterolesters formed by the chemical transformation of cells in the horny layer of the skin, protects the skin from the action of injurious substances and micro-organisms. The combined products of the skin have the property of absorbing a large quantity of water, and in virtue of this characteristic they prevent the skin from becoming too dry or too moist. The secretion also covers the hairs with an oily layer and preserves them from becoming too dry and brittle, and, on the other hand, from retaining too much water when they are exposed to rain. Water runs off the skin of a healthy man, and the skin is not readily affected unless the fatty material has been removed by excessive washing with soap and hot water. Long-distance swimmers find it necessary to increase this protective layer by rubbing tallow or some other fatty material over their bodies.

Interesting experiments have been made upon the influence of removal of the uropygial gland in water-fowl. In ten days after the removal of this modified sebaceous gland, which supplies the fatty material with which the feathers are preened, ducks have lost so much oil from their feathers that after swimming in the water for fifteen minutes they retain two or three times as much water as normal ducks which have been in the water for a similar time.

The entrance and growth of micro-organisms in the skin are prevented by the fatty layer formed by the secretions of the skin, and there is no doubt that many diseases of the skin are associated with failure in the secretory activity of the sebaceous glands.

The skin, under natural conditions, is admirably protected by its secretions. Anyone who believes in either design or evolution, or both, would expect this, but it is necessary to insist upon it, for there is an increasing tendency in some directions to forget that the body is a self-regulating organism, and that what is natural is best.

(*To be continued.*)

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, July 21st, 1910, at 11, Chandos Street, Dr. T. COLCOTT FOX, President, in the Chair.

Dr. DORE showed a case of *ringworm* affecting the upper lip as well as the beard region and hand in a man, aged 28 years. The patient attributed the infection of the beard to being shaved at a strange barber's in spite of the fact that the disease began on the hand and that he kept several kinds of birds, from which he might have become infected. He noticed the patch on the left hand three or four months before the face was attacked. When he first attended the Middlesex Hospital ringworm fungus was found in the scales from the hand and in the beard hairs. A month later a small patch appeared on the upper lip, below the left nostril, and fungus of the endothrix variety was demonstrated microscopically; cultures had not been made. The case was brought forward on account of the undoubted rarity of ringworm of the upper lip, although coccogenic sycosis was commonly found in this region.

Dr. J. M. H. MACLEOD showed (1) a case of *leprosy* in a man, aged 38 years, who was born in England, of English parents, but who had just returned from China, where he had been for ten years in the police force. The case was of the maculo-anæsthetic type, the only lesion noted at the time of exhibition being a maculo-anæsthetic pink patch situated over the left jaw but subsequent to the meeting definite swellings were detected in two of the nerves of the cervical plexus. The patient was a robust, well-built man of medium height, but who looked somewhat pale and anæmic from residence in the East. When he went out to China in 1890 he was in excellent health, and previous to that had had no debilitating illness, nor syphilis.

His family history was negative and there was no history of any skin-disease in the family. Soon after going abroad he lived at a station a few hundred yards away from a village in which there were numerous lepers. The lesion on his face first appeared while he was in Hong-Kong three years and nine months ago. It gradually spread and assumed a somewhat ringed appearance suggesting ringworm, for which he was treated for two years with no definite effect. It was examined microscopically for fungus on several occasions but with negative results.

On examination the patch was situated near the angle of the jaw, half of it being on the cheek while the other half spread down on to the neck. It was oval in shape, about 2 in. long by 1¾ in. broad. It was slightly irregular in outline but well demarcated. In colour it was pinkish red and darker than the rest of the skin, and was surrounded by a slightly raised border about a quarter of an inch in breadth and of a slightly darker tinge. The central portion of the lesion was smooth and somewhat shiny, and the hair-follicles had to a considerable extent disappeared from it. Neither in the patch nor around it was there any definite pigmentation. It felt numb to the patient, but there was no definite tingling or itching associated with it. On testing the sensations it was found that in the centre it was insensitive to heat, cold and pain and partially sensitive to touch, the paræsthesia being more marked in the centre than at the periphery. In addition to this the patient complained of tingling sensations in the temporal region of the same side, but there was no evidence of changes in the skin in that situation. The great auricular nerve-trunk was thickened to the size of an ordinary pencil from the posterior border of sterno-mastoid up to near the mastoid process, and the auricular branch was also thickened. The transverse cervical nerve was also thickened from the posterior border of external mastoid for about an inch in a fusiform swelling. It was the latter nerve which supplied the skin of the affected patch.

Any doubt which might have existed with regard to the diagnosis from the patch alone was rendered a certainty from the condition of the nerves. A Wassermann reaction had been done and had given a doubtful result.

(2) *A case for diagnosis.*—The patient was a fairly healthy-looking man, aged 34 years, who was a butler, and his skin-affection consisted of a peculiar papulo-pustular eruption on the forehead chiefly affecting the superciliary regions and spreading down on to the bridge of the nose. The patient first came under observation of the exhibitor in June, 1899, when he was sent to him from Paris by M. Sabouraud, whom he had consulted for the condition.

The affection began in June, 1908, when he was in England, on the left side of the forehead. Previous to that he had enjoyed excellent health, had never suffered from any skin-eruption, and denied having had syphilis.

His family history gave evidences of tuberculosis, several members on the father's side being consumptive. The father was dead, but the cause of his death was unknown to the patient. The patient had one sister who suffered from lupus.

The affection began on the forehead as a number of pinkish spots or rounded papules about the size of a small split-pea, which were indolent in their evolution, tended to break down and form a scab, and finally, left a depressed scar. He was treated in the first instance by a general practitioner, who burned the lesions with caustic. Under this treatment the eruption disappeared for five months, when a new group of lesions appeared on the left side of the forehead below the original group. These had no definite treatment and persisted without much change till March, 1909, when he went with his master to Paris and there consulted Sabouraud, who believed the condition to be a tuberculide.

When he first came under the observation of the exhibitor he presented about a dozen isolated papules on the left side of the forehead, which were yellowish-pink in colour, averaged in size from a hemp-seed to a split-pea, and had a somewhat translucent look. At the apex of each was a small, yellowish crust. The lesions were discrete except in one or two cases where two or three had coalesced. On examining them with a diascope the colour almost completely disappeared and no definite staining was left. At first sight the exhibitor was inclined to doubt the diagnosis of tuberculide, and thought that the affection might be syphilitic, and in consequence recommended anti-syphilitic treatment with mercurial pills and iodide of potassium in a mixture. As no definite improvement appeared to result from the iodide treatment it was discontinued, but the mercury was kept up until May 24th, 1910, in several courses to the point of salivation.

In addition to this he had had various forms of local treatment such as exposure to a Finsen lamp, and various antiseptic ointments and lotions. Under this treatment the lesions slowly disappeared and in February the eruption had almost gone, leaving a number of small pits about the forehead, but no pigmentation. About this time, however, a recrudescence took place in spite of the mercurial treatment and the eruption since then had been gradually spreading. At the time of exhibition it was worse than it had been since it was first seen by the exhibitor, several groups of lesions being present over both eyebrows and at the root of the nose, spreading down as far as the bridge. These showed a tendency to coalesce into pinkish-yellow patches, which were crusted over, and near the left inner canthus had formed ulcerated fissures.

The diagnosis of the case had presented the greatest difficulty to the exhibitor. For six or eight months, practically until February, he considered it to be a tertiary syphilide, but the behaviour of the lesions since then had shaken this opinion. Unfortunately he was unable to obtain a biopsy. A Calmette reaction had been done and gave a positive result on the right eye. (Since the case was exhibited a Wassermann reaction has been done by Mr. Leathem at Charing Cross Hospital, and this has also given a positive result.) The alternative diagnosis from syphilis was that it was an anomalous case of Acne varioliformis, and in some respects it suggested the condition to which the name "Acne agminata" had been given.

Most of the members present regarded it as a case of syphilis, and it was suggested that the patient be treated by intra-muscular injections of mercury.

Mr. J. E. McDonagh showed a case of *Leucoderma syphiliticum.* A girl, aged 22 years, C. C—, a brunette, came up to the Lock Hospital in the middle of October, 1909, complaining of a discharge. The patient had gonorrhœa and hard chancre, a sore throat, and a very faint macular rash. The rash soon disappeared, never became papular, and as it disappeared depigmented areas were left behind.

There was no doubt about it, since a gradual transition between a macule and a depigmented spot was easily discernible. No other signs of syphilis developed, but the patient remained under treatment, with the hope that the leucoderma would disappear.

The leucoderma was generalised, but most marked where the skin was normally deeply pigmented, viz. neck, back, and anterior folds of both axillæ.

The depigmented areas were circular, about the size of a sixpenny-piece, and discrete, none having coalesced to form a rosette, which was not uncommon in syphilis.

The case was an interesting one, in that it was all over the body, appeared about two months after infection, and clearly developed from a macular eruption.

The exhibitor mentioned that cases were not uncommon in which a spot of hyperpigmentation was to be found in the centre of a depigmented area, and that this hyperpigmentation had developed and had resulted from a papule, which had appeared in the centre of a macule.

The condition was probably more common in women than men, owing to the skin being more delicate and not so red in the former, therefore the contrast was more noticeable. Treatment did not alter the condition; the lesion was a chronic one, and tended to disappear in course of time, which was often a matter of years.

CURRENT LITERATURE.

A NEW MYCOSIS: THE HEMISPOROSIS. De Beurmann and Gougerot. Translated by R. Stein. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 2 and 3.)

Gougerot and Caraven described the first case of Hemispora stellata, which occurred as a cryptogenetic ostitis of the tibia. The case was diagnosed as a syphilitic ostitis, but as treatment had no influence on the disease an operation was performed, the pus examined, and the fungus found. The fungus was also grown on Sabouraud's medium. The serum of the patient agglutinated the spores of the culture up to 1 in 50, and co-agglutinated the spores of Sporotrichinus

Beurmanni up to 1 in 400. Further complement fixation succeeded with a mycelial extract of a fungus as the antigen and also with the sporotrichum. The hemispora is pathogenic to animals. Another case was described in which the Hemispora stellata was found in an abscess in the neck which was thought to be tuberculous. Glucose agar was inoculated with some of the pus, and a growth appeared after fourteen days as small brown colonies in those tubes which were kept at the room temperature; those put into the incubator remained sterile. The third case described was diagnosed as a gumma of the penis. As the lesion did not disappear under anti-syphilitic treatment the pus was examined, with the same results as mentioned above.

A microscopic examination of the lesions produced by the fungus in no way differs from tubercle or syphilis, and the spores in section are difficult to find. Inoculation on to glucose agar shows between second and fourth days isolated colonies as dirty white points about ·2 mm. in diameter. They grow quickly and become black. The first colonies appear at the edge of the medium, and they send out brownish-white processes. In the condensation fluid are small black deposits. The fungus also grows on the dry glass. This parasite seems in nature to be fairly widespread. Bonjeau found it in the water of Paris, Binot in the air and in the glacial water of Mont Blanc. The fungus can develop on ulcers which it has not caused. Bornl and Pinoy grew it on the vaccine pustules of calves.

J. McD.

PSORIASIS VULGARIS OF THE PALMS OF THE HANDS. G. PICCARDI. (*Archiv f. Derm. u. Syph.*, Bd, ci, Heft 2 and 3.)

THE article was opened with a history starting from the time of Willan up to the present. This was followed by a careful description of six cases in which the palm affection was only part of a general psoriasis; again, in which it was the only part affected.

The initial lesions were discrete, not raised above the surface, covered with scales which were not so easily removed as in patches on any other part of the body, and when removed they did not so readily expose bleeding points. Later the papules become raised above the surface and each papule was slightly depressed in the centre, so that when the overlying scales were removed they appeared crateriform. As the condition proceeded the papules became confluent, spread to the palmar aspects of the fingers along the sides of the fingers, but never reached the dorsum. The border was sharply circumscribed and the edge was not usually raised. In the centre of the palm were rhagades and fissures, often causing pain on movement. The same changes as occurring on the palms might also affect the soles of the feet. The condition was usually bilateral, but Darier has proved that it can be unilateral. There was often a tendency for the lesion to spread over the wrist.

The histology differed in no way from the features characteristic of the disease, except that acanthosis was not quite such a marked feature; the palms were affected in 18 per cent. of cases of psoriasis. When the palms were affected, as a rule psoriasis in other parts of the body was only to be found on the sites of predilection. In almost every case the nails presented typical features. Occupation seemed to have an influence on the occurrence in the palms, since most of the patients were builders; the age varied from thirty-two to fifty.

Psoriasis of the palms can be distinguished from Broocke and Dubreuilh's keratotic erythema in that the latter begins with dark red, infiltrated, and elevated papules on the palms and soles; in two or three months the whole palm of the hand and the fingers are affected, but the scales are yellowish and easily distinguished from the silver-white scales of psoriasis. From arsenic keratosis in that the latter is usually preceded by a desquamating erythema, followed by a general thickening of the horny layer, with an accompanying hyperidrosis and subjective symptoms of warmth and itching. The diagnosis from eczema is simple when vesicles are present, otherwise the irregularity of the border and the more frequent occurrence of rhagades helped to distinguish the two conditions. Further, in eczema of the palms the vesicles are usually found on the dorsum of the fingers. The fissures in eczema occur not only in the long axis of the fingers, but also in the transverse—a condition never found in psoriasis. Itching is a prominent symptom in eczema, and is never present in psoriasis. The changes in the nails may be very much the same in both diseases, but in eczema the peri-ungual zone is usually inflamed. The condition most likely to be mistaken with psoriasis is syphilis. The dark red colour of the lesion and especially its edge with desquamation, limited not uncommonly to the edge, with firmly adherent scales and more pronounced infiltration, the tendency to heal in the centre, the raising of the edge, the circinate form, the absence of spreading to the wrist or fingers, are the most useful distinguishing features. Syphilitic affection of the palm is more often uni- than bilateral.

J. McD.

THE RAT ITCH. L. Ascher. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 2 and 3.)

A disease broke out amongst the rats in the Cancer Institute, which began with an infection of the tips of the ears and on the nose, as wart-like papillomatous growths, which on examination proved to be due to a form of acarus almost identical with that which affects human beings. The tail was commonly affected, also the skin of the genitals; itching was intense. The growths were covered with yellowish-brown crusts. Most of the rats affected died. Not infrequently an improvement would set in, this being invariably accompanied by some intercurrent acute infection, probably analagous to the phenomenon described by Braun, viz. that human scabies frequently disappears during an acute infective fever, to reappear when the fever abates. The lesions differed from those met with in the human, as the burrows extended deep into the corium, causing a pronounced epithelial proliferation around. Mice were immune to infection.

J. McD.

THE CHEMICAL EXAMINATION OF THE BLOOD IN SYPHILIS R. Winternitz. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 2 and 3.)

By means of a refractometer the author estimated the quantities of the various proteids in the blood of syphilitics. The total quantity of proteid was increased in syphilis, especially the fibrinogen. The quantity varied in the different stages, and it was found that a positive Wassermann's reaction was associated with an increase in the proteid and *vice versa*, *i.e.* most proteid was found in those cases where the infection was general and the patient had received no treatment. Quantity diminished when mercury was given, and a rise was only noticed in the tertiary stage when the patient had symptoms. Since the difference between the amount of proteid found in syphilitic and normal serum was sometimes so small, the refraction method could not at present form an adjunct to the methods of diagnosis.

J. McD.

REVIEWS.

Therapeutique Hydro-Minérale des Maladies Vénériennes.*

The first part of the work is devoted to the treatment of syphilis by means of hydrotherapy, which seems to have been in general use in the form of sulphur baths as long ago as Fracastor's time, and since has been employed by several, but not to that extent which the author deems as advisable or even necessary. The author is particularly in favour of hydrotherapy in cases of asthenia, anæmia and cachexia—conditions not infrequently made worse by the administration of mercury, preference being given to sulphur baths and drinking arsenical waters.

Dr. Pelon strongly advocates the simultaneous use of mercury and sulphur, the former in the form of medicine or injections, and the latter in the form of baths.

The second part of the book deals with the hydrotherapeutic treatment of gonorrhœa, a form of treatment which dates from the time of Sydenham.

Sulphur baths are advocated and proved of some use in the treatment of arthritic troubles. Mineral waters are recommended in the various stages of the disease as having an influence in diluting and rendering the urine less acid, and so less irritating.

A very large bibliography is appended.

Although the book contains little that is new, it forms its purpose in bringing to the front a form of treatment from which much benefit can be derived, and to which too little attention is usually given.

J. McD.

Transactions of the American Dermatological Association.†

The Thirty-third Annual Meeting of the Dermatological Association was held in Philadelphia on June 3rd, 4th, 5th, 1909, under the presidency of Dr. T. Casper Gilchrist, of Baltimore.

The proceedings were opened with an address by the President, in which he referred briefly to the advances which had been made in dermatology in the previous year. He described the method of teaching adopted at the Johns Hopkins' Hospital, which had worked successfully during the last eight years. The student was first taught how to take a history, and then to describe the lesion according to a definite plan supplied to him on a printed card. Each student received type-written notes giving a short description of the more common skin-diseases classified regionally or according to their primary lesion. Tables showing the main points in the differential diagnosis were included. After two or three weeks' daily training he was directed to study by himself, and to try and make a diagnosis of all the new cases before they are examined by the instructor, after which he is questioned about them and has to give his reason for the diagnosis. The students hand in their written diagnoses to the instructor, and the cases are subsequently gone over and demonstrated.

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* *Therapeutique Hydro-Minérale des Maladies Vénériennes.* By Henri Pelon. (Editeur, Rudeval, Paris, 1908.) Price 5 francs.

† *Transactions of the American Dermatological Association at its Thirty-third Annual Meeting held in Philadelphia, June 3rd, 4th, and 5th, 1909.* Official Report of the Proceedings by Grover W. Wende, M.D., Secretary.

He referred to the striking advances which had been made in our knowledge of syphilis, as a result of the serum derivative tests of Wassermann and Noguchi, and of the use of the dark field illumination for detecting the *Spirochæta pallida*.

In connection with the vaccine treatment of *Acne vulgaris*, he had found that under the *Staphylococcus albus* vaccine alone many cases had cleared up in which the *albus* predominated as a secondary invader, but that small and large nodules did not improve under the *albus* vaccine alone. In cases where the *Bacillus acnes* grew in pure culture a vaccine from the *Bacillus acnes* was necessary. The ideal treatment consisted in employing a mixture of both vaccines. According to his experience the comedones were not influenced by the use of either vaccines, and had to be expressed in the old way, but the use of a vaccine seemed to prevent their return. He found that the *Bacillus acnes* grew well on a 2 per cent. glycerine agar medium made slightly acid with acetic acid.

In infections from *Staphylococcus aureus*, especially in Sycosis non-parasitica, he found that a *Staphylococcus albus* vaccine gave better results than an autogenous vaccine, and that a similar experience occurred in furunculosis due to *Staphylococcus aureus*. The opsonic index did not appear to him to be of much practical use as a guide for the administration of vaccine, and clinical signs were more dependable.

He referred also to the advances which had been made in the treatment of skin-diseases by physical agents, such as the X-rays, radium, ionisation, and carbonic acid snow.

The papers which were read before the Association have appeared in the *Journal of Cutaneous Diseases*, and the majority of them have been abstracted in this journal by Dr. Colcott Fox. It will be unnecessary, therefore, to do more than mention them here to indicate the scope of the work of the Association in 1908 and 1909.

Papers were read on the "Psychological Aspect of Dermatitis factitia," and on "Adipositas cerebralis" by Dr. George Pernet, on "Meralgia paræsthetica" by Dr. Samuel Sherwell, and "Notes on the Treatment of Alopecia areata and Dermatitis exfoliativa" were contributed by Dr. George T. Jackson. Dr. Joseph Grindon reported "A Fatal Case of Acute Septic Pemphigus," and also "Some Notes on Syphilis," including references to the vesicular lesions in hereditary syphilis, an untreated case in which the first cutaneous manifestation appeared twenty years after the chancre and pulmonary syphilis. Dr. William S. Gottheil read an interesting paper on "Pseudo-xanthomatous lymphangioma." This unusual condition was observed by Thibierge, who described it as "capillary Xanthelasmoid lymphangioma." The lesions consisted of soft, pin-head-sized tumours, which become packed together into a patch resembling lichenified skin. They were soft, yellowish in colour, and showed no trace of vesicle formation. Histologically dilatations were present in the papillary layer with small cavities lined with flat cells, which appeared to be dilated lymphatic spaces. The elastic fibres of the cutis were markedly swollen in places or broken up into short thick pieces. The microscopic examination showed the condition to be a combination of superficial lymphangioma, with a degeneration of the elastic tissues similar to that of Darier's Pseudo-xanthoma elasticum.

Dr. J. A. Fordyce contributed an excellently illustrated paper on a "Histological Study of the Lichen Group of Skin-Diseases," and Dr. Ravogli recorded a case of Erythroderma squamosum (parasporiasis). Some observations on the results of the Wassermann test in sclerodermia were reported by Dr. Henry H. Whitehouse, in which out of five cases of diffuse sclerodermia three gave a strongly positive reaction, one was faintly positive and one negative. The two latter, however, had been under anti-syphilitic treatment for a sufficient time to negative the test. Arguing from this the writers suggested that, as most observers believed that the vascular changes were primarily the seat of the trouble of sclerodermia, it was not improbable, in view of the histological similarity of these changes to those in syphilis, that should the Wassermann observations here recorded be later confirmed, syphilis might be found to be an ætiological factor in this disease. Of course it must be remembered that sclerodermia might occur in syphilitic subjects.

Dr. Howard Fox gave a comparison of the Wassermann and Noguchi complement-fixation tests, and came to the following conclusions: (1) Of the different methods of serum diagnosis of syphilis depending upon the principle of complement-fixation, that of Noguchi seems most perfect from a theoretical standpoint. (2) From the standpoint of simplicity in technique, the method of Noguchi stands without a rival. (3) The result of the writer's comparative analysis of the Wassermann and Noguchi tests showed, in cases of syphilis, a larger proportion of positive reactions with Noguchi than with the Wassermann test; it is only fair, however, to say that at present the two methods had given fairly parallel results in the writer's hands. (4) Whether the Noguchi test would prove to be as nearly specific for syphilis as the original Wassermann method could only be ascertained after an examination in the future of a large number of cases.

On the second day the important subject of the ætiology of psoriasis was under general discussion. It was opened by an excellent critical review of the subject by Dr. S. Pollitzer, while Dr. J. H. Schamberg dealt with the parasitism of the disease. In those papers all that is at present known and is of value with regard to the ætiological conception of psoriasis is dealt with in a succinct way, though in reading those papers there was no evidence that any great advance had been made in our knowledge of the cause and true nature of this disease during the last quarter of a century.

Papers on the "Elastic Tissue of the Skin" were read by Dr. Charles J. White, and on the "Elastic Tissue in Epidermolysis Bullosa" by Drs. Engman and Mook. According to Dr. Charles J. White elastin has never been observed within any part of the epidermis. Disease seldom increases the amount of elastin, but almost always causes a loss of it. Elastin withstands pressure, but succumbs to chemical changes—in other words, toxic products are the principal source of danger to this element. Elastin disappears entirely from granulation-tissue, but returns with the new connective tissue. Elastin disappears with the advance of carcinomatous and other new growths into or within the corium, but fragments of elastin and elacin may be surrounded and enclosed by rapidly multiplying epithelial cells. X-rays, except in the presence of infiltration or ulceration, tend to increase the amount of elastin. This paper is of great interest, and shows that the origin of this tissue still remains a mystery.

The treatment of certain chronic inflammatory skin-diseases are discussed by Dr. Louis A. Duhring. Dr. O. S. Ormsby reported "Four Cases of Bromide Eruption mistaken for Blastomycosis." Though the lesions were somewhat similar they could be differentiated by the fact that the bromide exanthen, in its earliest stages, was more actively inflammatory. Dr. E. Wood contributed a preliminary note upon a "Case of Multiple Benign Cystic Epithelioma and Multiple Fibroma in the Same Patient," and Dr. Hartzell "A Case of Pemphigus vegetans, with Special Reference to the Cellular Elements found in the Lesions." Dr. Douglas Montgomery and Dr. Morrow gave a paper on "The Increase of Certain Contagions following the Great Fire in San Francisco," and Dr. Grover W. Wende reported "A Case of a Nodular Terminating in a Ring Eruption of the Skin."

The third section was devoted entirely to the demonstration of interesting cases, among which were several cases of Urticaria pigmentosa, two cases of Xeroderma pigmentosum, a case of Lupus erythematosus associated with a papulo-necrotic tuberculide of the face and arms, and a large number of photographs of patients and micro-photographs of specimens were exhibited.

J. M. H. M.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

VARIOUS.

Atrophia Cutis Idiopathica. Dr. M. OPPENHEIM. (*Archiv f. Derm. u. Syph.*, vol. cii, parts 2 and 3, p. 163.)

Darier's Disease, A Case of. LIPMAN-WULF. (*Derm. Zeitschr.*, April, 1910, xvii, p. 261.)

Dermatomyositis, A Case of Chronic. SCHENK and GEYEM. (*Wien. klin. Rundschau*, Nos. 7–10, 1910.)

Erythema Elevatum Dintinum and Granuloma Annulare. FAVERA. (*Derm. Zeitschr.*, August, 1910, xvii, p. 541.)

Erythema Nodosum Preceding a Meningococcic Septicæmia, with Secondary Complication of Cerebro-spinal Meningitis. LOISELEUR and MONZIOLS. (*Bull. et Mem. de la Soc. Méd. des Hôp.*, June 16th, 1910, p. 772.)

Hereditary Darier's Disease. L. ROTHE. (*Archiv f. Derm. u. Syph.*, vol. cii, parts 2 and 3, p. 229.)

Impetigo Herpetiformis Gravidarum. WECHSELMANN. (*Archiv f. Derm. u. Syph.*, vol. cii, parts 2 and 3, p. 207.)

Meralgia Paræsthetica. SAMUEL SHERWELL. (*Journ. of Cut. Dis.*, June, 1910, p. 281.)

Psoriasis, Ætiology of. SELLEI. (*Wien. klin. Wochenschr.*, No. 29, 1910.)

Psoriasis, Reflections on the Ætiology of, *àpropos* of the article of Brocq. POLLITZER. (*Ann. de Derm. et de Syph.*, July, 1910, p. 401.)

Purpura Hæmorrhagica and Tuberculosis. LEON and BLAYE. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, May 5th, 1910, p. 481.)

Raynaud's Disease. HOESSLIN. (*Münch. med. Wochenschr.*, No. 29, 1910, p. 1534.)

Rosacea. ARTHUR LOXTON. (*Birmingham Med. Review*. February, 1910.)

Sclerodermia, Subacute, Post-traumatic, with Anuria. LEBAR and ROUTIER. (*Bull. et. Mém. de la Soc. Méd. des Hôp.*, May 12th, 1910, p. 503.)

Unusual Scratching Effects in an Hysteric. POLLAND. (*Derm. Zeitschr.*, August, 1910, xvii, p. 564.)

Ulcus Neuroticum Mucosæ Oris. J. LÖBLOWITZ. (*Archiv f. Derm. u. Syph.*, vol. cii, parts 2 and 3, p. 191.)

Zona of the Scrotum, Perinæum, and Buttock, with Complete Retention of Urine and Fæces. PARSAT. (*Ann. de Derm. et de Syph.*, June, 1910, p. 332.)

GRANULOMATA.

Botryomycosis, Human, On the Alleged. LENORMANT. (*Ann. de Derm. et de Syph.*, April, 1910, p. 161.)

Lymphodermatitis Vegetans, On a, caused by saccharomyces (*S. granulatus* of Vuillemin and Legrain. PELLIER. (*Ann. de Derm. et de Syph.*, April, 1910, p. 191.)

Subcutaneous Chalky Concretions (Granulomes calcaires sous-cutanés). MILIAN. (*Bull. et Mém. de la Soc. Méd. des Hôp.*, July, 1910, p. 23.)

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HERPES FACIALIS IN SCARLET FEVER.

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The occurrence of facial herpes in scarlet fever has been noted by various writers such as Fereol, Girard, von Jürgensen, Saint Paul, von Pirquet, and Lafforgue, but no statistical data have hitherto been published. Schamberg estimates its frequency at 3 per cent., at the same time acknowledging that he has no available figures. Having recently investigated this eruption in diphtheria I thought that a similar inquiry in scarlet fever would be of some interest. The present note is based on observations made on 413 cases of scarlet fever in the course of the last few years at the Grove Hospital. Herpes facialis was noted in twenty-seven cases, or 6·5 per cent., a figure slightly exceeding that found by me in diphtheria, in which it occurred in 4·2 per cent. of 1370 cases, and about the same as that occurring in influenza, in which it was found by the German investigation committee to exist in 6·0 per cent. (Schamberg). Scarlet fever, therefore, comes fourth in the list of acute infectious diseases in which figures of the frequency of Herpes facialis are available, following at a long distance pneumonia, malaria, and cerebro-spinal meningitis, in each of which it occurs in about 40 per cent. In twenty-three cases the lips alone were affected, in two the nostrils as well; in one the right cheek only, and in one the nostrils and the right cheek. None of the cases showed the extensive distribution, atypical localisation, and relatively long duration which are characteristic of the eruption when it occurs in cerebro-spinal meningitis. The lesions in every case healed rapidly, and left no scar. Like the facial herpes of diphtheria the eruption in scarlet fever showed no predilection for young children, thus differing from the other complications of the acute exanthemata, but occurred at all ages, except in early infancy. The youngest case was three years old, although twenty-four of 413 were below that age. The sexes were almost equally affected: fourteen, or 7·4 per cent., were males; twelve, or 5·2 per cent., were females.

The seasonal distribution which shows that the eruption was most frequent in the autumn and winter was as follows: January, 1 case; February, 3 cases; March, 1 case; April, 0 cases; May, 1 case; June, 3 cases; July, 1 case; August, 5 cases; September, 4 cases; October, 3 cases; November, 3 cases; December, 2 cases.

The facial herpes of scarlet fever resembles that of diphtheria in being essentially a phenomenon of the acute stage. In all but five it occurred within the first week of disease. In two it was noted on the ninth, in one on the twelfth, in one on the twenty-eighth, and in one on the thirty-first days. Possibly in the last two cases the scarlatinal virus was not responsible for the appearance of the eruption.

In addition to the cases of facial herpes an instance of Herpes progenitalis was noted, in which the eruption occurred on the twelfth day of disease, in a girl, aged 5 years, in association with a vaginal discharge.

Herpes zoster, an occasional sequela of acute infectious disease, was not observed in the present series. Moureyre, on the other hand, noted three examples of zona among 496 cases of scarlet fever with lumbar, supra- and infra-orbital distribution respectively. Girard has reported a case of femoral herpes which developed after the acute stage had subsided. In Letulle's case herpes occurred along the course of the lesser sciatic nerve during the incubation period, the rash of scarlet fever appearing fifty hours later.

Pflugbeil has recently drawn attention to the occurrence of generalised herpetiform eruptions as a sequel to infectious disease, and has collected from literature seven cases following diphtheria, three following gonorrhœa and cerebro-spinal meningitis respectively, one following malaria, and six following typhoid fever or septic infections resembling it. Apparently no instances have yet been recorded of these eruptions following scarlet fever.

No diagnostic importance can be attached to Herpes facialis in scarlet fever, the eruption being almost equally frequent in scarlet fever and diphtheria, and much commoner in angina due to other causes, in which, as shown in my previous paper, it was found in 13·1 per cent.

As regards the prognostic value of Herpes facialis, which is stoutly denied by Hebra and Kaposi, it may be stated that, as in diphtheria, the eruption was more frequent in the severe than in the mild cases, being found in thirteen cases, or 12·6 per cent. of the former, as compared with fourteen cases, or 4·1 per cent. of the latter. In spite of its greater frequency among the severe cases, none of those presenting the eruption proved fatal, so that it cannot be regarded as an unfavourable sign.

Though a bacteriological examination of the throat made in a few of my cases did not reveal the predominance of any organism other than a streptococcus, the possibility of a pneumococcal infection in Herpes labialis must not be forgotten, even in the absence of a pulmonary localisation. In an interesting paper on pneumococcic angina at the onset of scarlet fever, Lafforgue has recently recorded three cases in which the faucial symptoms, instead of being due to the streptococcus, were associated with the pneumococcus in almost pure culture. Though none of his cases had pneumonia nor any pneumococcal localisation beyond the angina, two presented extensive labial herpes.

According to Schamberg, the three varieties of herpes—H. facialis, H. progenitalis, and H. zoster—are due to the development of some toxin which has a special affinity for nerve-tissue, especially for the cells of sensory ganglia. This hypothetical toxin is not due to any definite micro-organism, and the eruption may, therefore, follow various infections. The frequency of herpes in some diseases such as pneumonia and its rarity in others still require some explanation.

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NOTES ON A CASE OF PAPULO-NECROTIC TUBERCLIDE.

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THE term "tuberclide" was suggested by Darier to designate a certain group of skin-eruptions, differing from one another, it is true, in their clinical appearance, their distribution, and their evolution, but seeming all to have an intimate association, though indirectly, with the tubercle bacillus. Of this group, that condition known by the name of Acne scrofulosorum or the papulo-necrotic tuberclide is perhaps the most typical example, as well as being of much more frequent occurrence than is generally recognised.

The subjects of the disease are frequently found to be suffering, or to have previously suffered, from a tuberculous lesion elsewhere, or if not, one can at least elicit in a large proportion of cases a marked family history of tuberculosis. Evidence of poor peripheral circulation is the rule; almost without exception the patients complain of cold hands and feet, and a tendency to chilblains, and on examination of these parts they are frequently found to be blue and cyanotic. The disease is largely one of childhood and early adult life. Furthermore, it would seem to affect females much more frequently than males. Its progress is an essentially chronic one, extending over years, although subject more or less to frequent periods of improvement, or to intervals when the active lesions are entirely absent. Generally speaking, the disease is at its worst during the cold weather.

The regions far most commonly affected are the forearms and elbows, legs and knees, although the thighs, buttocks, and backs of the hands are not infrequently the seat of lesions, while the face is occasionally involved. The individual lesions begin as a small hemp-seed to a split-pea-sized, painless, purplish-red raised nodules. The margin of the nodule is hard and indurated to the touch, and is usually surrounded by a definite pinkish areola. The lesion gradually increases in size, and after from one to several weeks the central portion is seen to soften, become slightly depressed, and covered by a hard, adherent, greyish-yellow crust. With the falling away of this crust a small depressed circular lesion is formed, which, healing in due course, leaves a bluish-red pigmented scar, which later becomes white. The lesions, though frequently, are by no means invariably follicular in their arrangement. In many a hair may be observed in the centre of the nodule, while others are clearly extra-follicular. In a given case a great variety of lesions may often be observed, which are but stages in the same process of evolution from the incipient nodule to the final phase of the small white-pitted scar.

With regard to the relationship between the papulo-necrotic tuberclide folliclis and acnitis, there is a tendency now to consider them as one and the same process, the first differing from the last in respect to the distribution alone; the clinical appearance and the histological findings of the individual lesions correspond with one another in all the essential features.

Regarding the pathology of this type of tuberclide, the evidence which would go to prove that the condition is definitely due to the action of the tubercle bacilli themselves rather than to their toxins, as suggested by Hallopeau, seems to be steadily accumulating.

Nicolau, for example, by inoculating guinea-pigs with attenuated cultures of tubercle bacilli produced nodular lesions with the supposed characteristic structure of tuberculosis, whereas inoculations of filtered cultures (toxins) were followed by negative results.

Leiner and Spieler, on the other hand, demonstrated that by injecting, either subcutaneously or intra-peritoneally, in guinea-pigs an emulsion made from the scrapings of the lesions of a papulo-necrotic tuberclide with sterile bouillon, they were able to reproduce nodular lesions in which numerous tubercle bacilli could be demonstrated. In spite, however, of these apparently positive results, the great majority of inoculation experiments, as well as the attempt to demonstrate the presence of the tubercle bacillus in the lesions, have been attended by negative results.

The histological appearances in sections of a papulo-necrotic tuberculide resemble in many essential features those of a nodule of known tuberculous origin. In both cases we find a cellular infiltration involving the corium. This infiltration is frequently noticed to be especially dense in the immediate neighbourhood of the sweat-coils, hair-follicles, and blood-vessels. In both cases the cellular hyperplasia shows a striking simularity; plasma-cells, epithelioid, or new connective-tissue cells, and giant-cells of varying number and perfectness can be made out. The practically invariably negative results in attempting to demonstrate tubercle bacilli in the lesions of the papulo-necrotic tuberclide is, perhaps, an argument of less weight in attempting to prove or disprove the bacillary origin of the disease than some authorities would have us believe.

I am indebted to Dr. J. M. H. MacLeod for his kindness in enabling me to describe the following typical case from his clinic:

Agnes B—. The patient was a small, delicate-looking child, aged 5½ years, with dark hair, a sallow complexion, and a general appearance somewhat suggesting tubercular taint. When she was two years of age she was treated for whooping-cough. The cough not improving after twelve months' treatment her mother took her to the Brompton Hospital, where, after three months' treatment, the cough disappeared, and the child's general condition greatly improved. A year later an eruption, which was neither itchy nor painful, appeared on the arms and elbows. Several weeks later the lower extremities and buttocks were similarly affected, with an occasional lesion on the face and ears.

The family history with regard to tuberculosis was positive. Her mother has been, and still is, attending the Brompton Hospital for pulmonary tuberculosis, while the sister of the patient's father died of "acute consumption" after an illness of about seven weeks at the age of twenty-one.

On examination of the patient herself no definite stigmata of tuberculosis were detected in the chest or abdomen; the respiration was normal, there was no dulness on percussion, and no adventitious sounds were detected. The abdomen was flat, and there was no

PLATE I.

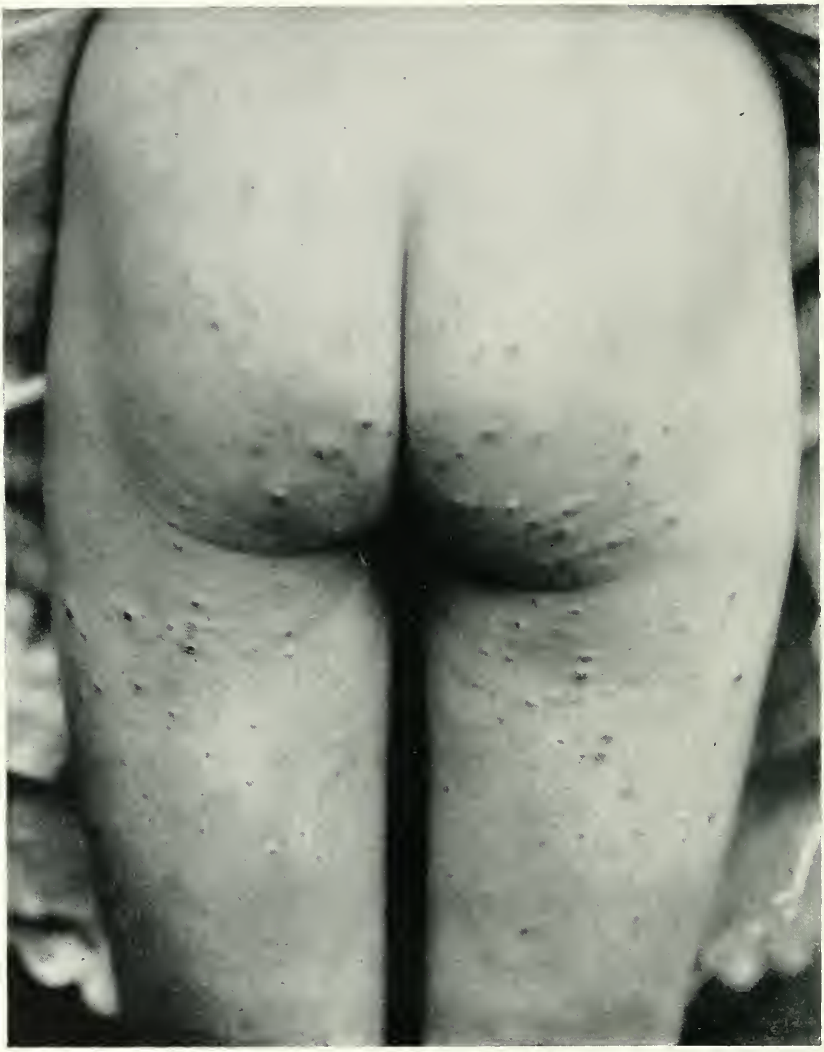


FIG. 1.

TO ILLUSTRATE DR. PHILIP BURNET'S ARTICLE ON PAPULO NECROTIC TUBERCULIDE.

PLATE II.

FIG. 2.

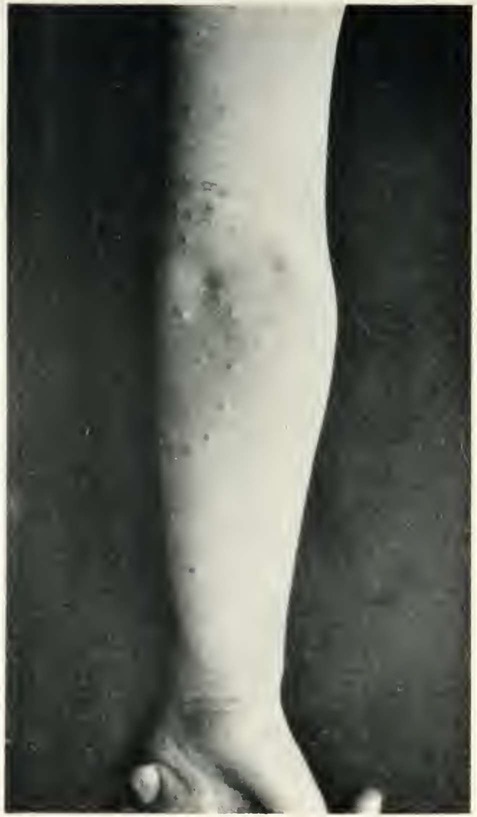
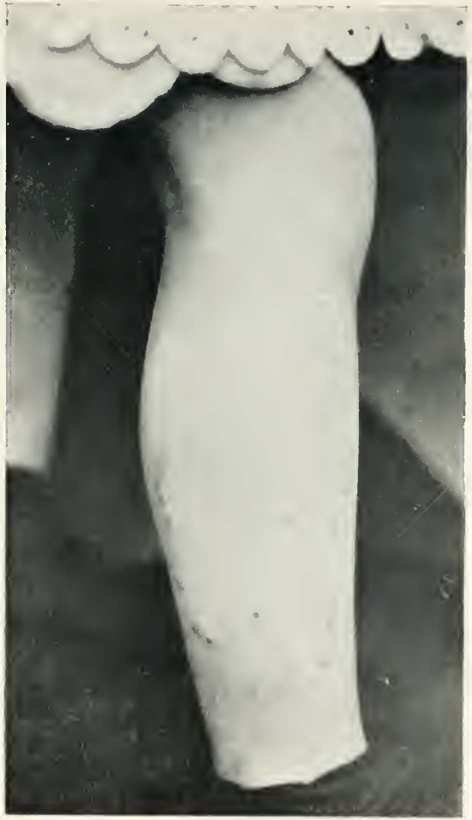


FIG. 3.



TO ILLUSTRATE DR. PHILIP BURNET'S ARTICLE ON PAPULO NECROTIC TUBERCULIDE.

suggestion of mesenteric trouble. The cervical glands, however, were found to be plainly palpable, and her mother stated that whenever the child "catches cold," and especially in the winter months, "large lumps" appeared in her neck. A papulo-necrotic eruption was present on the extensor aspects of the arms, extending from a slight distance above the elbows down the wrists, on the buttocks, and on the legs from the knees to the ankles. The eruption consisted of hard, indurated nodules or papules, varying in size from a pin's head to a split-pea, and in colour from a pale red to a deep purple. These lesions gradually underwent a necrotic process, without actively suppurating. They became yellowish in the centre, and gradually necrosed, leaving a pitted scar. All stages in this process could be detected. In some, the more recent ones, the epidermis overlying the nodule was still intact; in others a greyish-white, depressed, necrotic-looking centre was present; while others, again, were surmounted by a brownish adherent acuminate crust. Small pitted scars were also present, varying in shade from bluish-red—recent ones—and reddish-brown—older ones—to scars, in which all evidence of pigmentation or inflammatory reaction had disappeared.

Sections prepared from several lesions excised from the case showed the following changes:

A dense, more or less sharply defined cellular infiltration, involving the corium, chiefly in the papillary and subpapillary layers, is to be observed, though in places the process extends more deeply. The cellular elements are made up chiefly of epithelioid or new connective-tissue cells, mononuclear round cells, and a certain number of plasma-cells, while here and there a giant-cell of more or less imperfect type was to be seen.

There were no typical Langhans' giant-cells, nor was the grouping and general structure of the process like that of a miliary tubercle. Surrounding the sweat-coils and hair-follicles in the neighbourhood were areas of small round cellular infiltration; the blood-vessels were seen to be markedly dilated, and were surrounded by a cellular infiltration towards the summit of the lesions in its central zone. The cellular structure had disappeared, and was replaced by a homogeneous-looking necrotic mass. The epidermis showed a marked broadening of the prickle-cell layer and had a boggy œdematous appearance.

After a careful examination of numerous sections a search for tubercle bacilli proved negative. A piece of tissue was inoculated into a guinea-pig, and gave active results.

So far, then, as the inoculation experiments and the presence of tubercle bacilli in the tissue went, there was no evidence to show that the condition was due to the tubercle bacillus *in situ*. The histological sections, on the other hand, were somewhat suggestive of Tuberculosis cutis, and might possibly be explained as the result of the presence of a tubercular toxin circulating in the cutaneous capillaries.

HOW MEIROWSKY'S WORK HAS ADVANCED OUR KNOWLEDGE OF PIGMENT PRODUCTION.

By J. E. R. McDONAGH, F.R.C.S.

The first serious work on pigmentation was Kölliker's in 1860. This formed the start of a discussion which even in 1910 is still progressing, although several points which were at issue have been satisfactorily cleared up.

The main question which arose respected the capability of the epidermis to produce pigment, *i.e.* whether pigment in the epidermis was autochthonous or derived from the corium.

Kölliker's observations were carried out on the *Protopterus annecteus* (a species of lung fish), and because pigment-cells were found in the epidermis which sent processes into the corium, and since many of these branched pigmented cells were found in the corium, Kölliker concluded that these cells, or chromatophores, as he called them, originated in the cutis, from which they travelled into the epidermis.

Kebert regarded these chromatophores as connective-tissue cells, which had the power of manufacturing pigment for the supply of the epidermis.

Riehl, in 1884, went further, and demonstrated that these branched pigment-cells sent not only their branches into the inter-epithelial lymph-spaces of the epidermis, but directly into the protoplasm of the epithelial cells, to which they gave up their pigment.

Riehl called these pigment-cells "wander-cells," and because he found them mostly arranged around the blood-vessels of the corium, presumed they built up or derived their pigment from the blood and carried it to the epidermis.

Ehrmann regarded these cells as being of connective-tissue origin, which had the function of elaborating pigment from the blood to convey to the epidermis.

Ehrmann did not agree with Riehl regarding the way the pigment was given up, and stated that the wander-cells stop short when they reach the epidermis, the further progress of the pigment being performed by an intermediary cell branched and amœboid in action. These amœboid cells Ehrmann regarded as being epithelial in origin, since in the frog they were only to be found in the middle layers of the epidermis, and because they were more branched than cells of mesodermic origin.

Karg transplanted by means of Thiersch grafts negro's skin onto a white's and *vice versâ*. In the former the graft became white, and in the latter black, showing that cells in the corium were the cause of the pigmentation, and that it was not due to pigment formed in the epidermis. The depigmentation was thought to be due to the backward flow of epidermic pigment into the chromatophores, since where the epidermis was poorest in pigment the uppermost layer of the cutis was richest. Or that the chromatophores elaborated no more pigment, that present in the epidermis being shed in the natural course of events.

Meyerson found that the cells which Ehrmann described as occurring only in the middle layers of the epidermis of the frog's skin frequented also the lowest layers. Identical cells as the epidermal pigment-cells were also found in the frog's blood and liver. Meyerson called them "melanocytes," thinking they were of hæmatogenous origin. In order to substantiate his view that their function was to carry pigment to the epidermis, he injected aqueous emulsions of cinnabar daily for three or four weeks into the dorsal lymph-sac of a frog. In the colourless blood-corpuscles cinnabar masses were found together with pigment-granules. The same cells were found in the epidermis and liver.

Retterer, in 1887, examined the skin from embryos of horses and donkeys, and found that only the epidermis was pigmented, there not being a trace in the cutis. This formed the foundation for the autochthonous origin of epidermic pigment.

Loeb, who repeated Karg's experiments, came to exactly the opposite conclusions, and was convinced that the pigment formed in the transplanted epidermis was autochthonous and dependent upon some metabolic changes occurring in the cells.

Mertsching regarded the pigment as being formed by the nuclei of the epidermal cells, and was the first to advance a theory concerning the relationship between pigment-granules and keratohyalin—in fact he looked upon both as being one and the same, differing only in that pigment occurred in a finer state of division.

Caspary held the view of the autochthonous origin of pigment in the epidermis, but nevertheless regarded the pigment-cells found in the corium as having the function of conveying pigment from the blood to the epidermis.

Jarisch noted that in embryo batrachians the upper and middle layers of the epidermis became pigmented before the lower; that the cells containing the pigment were of epiblastic origin, since transition stages were discernible between normal epithelial cells and the specialised pigment-cells.

From further investigations Jarisch was convinced of the power of the epithelium to form pigment, and that this pigment originated from the nuclear chromatin.

Schwalbe examined the hairs of animals whose coats undergo a seasonal variation. When white no pigment is found in the hairs, epidermis, or corium. In spring, when the summer coat begins to get dark, the first place where pigment was deposited was found to be in the matrix-cells of the new hairs, and first around the nuclei of these cells. Not until the hairs had become pigmented was there any pigment in the epidermis, and at no time of year were pigment-cells found in the corium.

In the Aphysia, one of the Gastropods, pigment occurs only in the epidermis.

In the embryos of most animals pigment is formed in the epidermis before it appears elsewhere. Therefore the autochthonous origin of pigment in epithelium can be safely taken for proved.

Working on the known fact that light has an influence on the production of pigment, *i.e.* the blue, violet, and ultra-violet rays, Meirowsky subjected the inner, non-pigmented portion of the forearm to the Finsen rays. The exposure lasted one to two hours, during which time the strongest pressure possible was used to render the arm anæmic in order to exclude the possibility of the blood as being a factor in the pigment production. A piece of skin was excised without an anæsthetic and fixed in alcohol.

Pigment was found in the epidermis only, both in the lower and upper layers. No pigment was found in the corium, nor was there any extension of the epidermal pigment into the cutis.

Since it had been stated by Ehrmann that no pigment could be produced in the epithelium of an atrophic scar, Meirowsky exposed such scars to the Finsen rays, and found that the epithelium could manufacture pigment.

Similar results were arrived at by shaving rabbits and exposing the skin to the sun's rays; here, again, pigment was found only in the epidermis.

If the skin is burnt with rays, so that the epithelium is completely destroyed, the new epithelium which forms from the edges, sebaceous glands, and hair-follicles is at first pigment-free. It soon becomes hyperpigmented, and in the various stages of this evolution the following facts have been discerned:

(1) Wander-cells, either as spindle-cells or leucocytes, enter the epidermis from the cutis; only very exceptionally are they pigmented. They lie in the lymph-spaces, but are never seen to give up their pigment to the epithelial cells.

(2) Branched cells appear (melanoblasts or chromatophores), whose origin from epithelial-cells is obvious, all intermediary stages being easily discernible. These cells become pigmented and branched; with their processes they envelop the epithelial-cells. Some of these processes also extend into the corium.

(3) In other parts, where neither these branched nor wander-cells were found, there were, nevertheless, pigment-cells. These cells are probably identical with the branched cells. The presence of branches is only an indication of cell activity, the pigment wandering from the centre of the cell into the processes so as to become distributed over a larger area. When the cell is at rest the pigment recedes. This is what happens in the chromatophores of the chameleon: it is only the pigment which moves, the cells remaining stationary. The pigment found in normal skin is situated in cells indistinguishable from ordinary epithelial cells, and it is only when some external

influence is at work that branched pigmented cells are found. Therefore these cells are probably branched cells in a state of rest.

(4) In the cutis only a few pigment-cells are found, none of which were hyperpigmented. To make the evidence of the autochthonous origin of pigment in the epidermis still more conclusive, Meirowsky exposed some Thiersch grafts to the Finsen rays.

It is possible after removing a Thiersch graft from a living person to implant it on to another individual with success, even when it has been dried for twenty days and put before use into saline solution for two days. Therefore the epidermis can retain its vitality for some time after it has been separated from its mother substance. Such a graft was removed and kept in saline and rayed; for a control another graft was covered with black paper and rayed. The uncovered piece became pigmented, clearly showing that blood is not necessary for the production of pigment.

Warmth also has an influence on pigment production, since skin removed post mortem and kept on ice—no change occurs; the same skin put into an incubator at 36° C. becomes pigmented, at 56° C. hyperpigmented, the pigment formed being true melanin.

Such experiments undoubtedly prove that the epidermis has the power of manufacturing pigment. Now it remains to trace the origin of the pigment found in the corium. The front part of the forearm of *Cercopithecus Mona* is white; neither the epidermis, hairs, nor upper layers of the cutis contain a trace of pigment—only the lower layers of the corium, where are found several branched pigment-cells. This is evidence enough of the autochthonous origin of pigment in the cutis.

The next point to deal with is as to how the pigment is formed.

Mertsching was the first to draw attention to the relationship between pigment formation and nuclear changes, and regarded some substance in the nucleus as being the forerunner. Not only was this the case with epidermal pigment but also with the pigmented cells in the corium, showing that even the cutis pigment was not manufactured from the blood.

Jarisch and Lukjanow were able to substantiate these views.

R. Hertwig went a step further and stated that the chromidia of the nucleus were the progenitors of the pigment.

Rössle, who studied the pigment in melano-sarcomata, showed that the nucleoli actually left the nucleus to become transformed into pigment in the protoplasm.

Staffel, from his researches on Xeroderma pigmentosum, came to the conclusion that plasma-cells and mast-cells manufactured pigment, which originated from the nucleus as Rössle described.

On further examination of the material which was obtained by exposure of unpigmented skin to Finsen rays and stained after Pappenheim's method, Meirowsky noticed that the first change to take place in the cell was the formation of a red substance in the nucleus—pyronin red substance. This red substance was in many cases attached to the nuclear membrane, through which it found its way into the cell protoplasm, where it became transformed into pigment. These changes first occurred in the basal cell-layer of the epidermis and gradually spread upwards. Not infrequently the nucleus showed a depression at either the upper or the lower pole, or sometimes laterally, so that vacuoles formed, into which the red substance entered. When the cell had become fully pigmented no more red substance remained.

Similar changes were observed to occur in rabbit's-skin which had been shaved and exposed to the sun, in the conjunctiva of an ox, in a melanoma, in triton and frog larvæ, and in embryonic skin. The action of light upon the cutis was to increase the number of the mast-cells, and in these mast-cells the same relation between the pyronin red substance of the nucleus and pigment formation occurred as above described. These cells differ from ordinary mast-cells in not being metachromatic, and Meirowsky is inclined to look upon them as being unripe mast-cells. The granulations of a mast-cell come from the nucleus, and it is not until these are formed that the cell becomes metachromatic. Mast-cells are increased in freckles, and when skin is rayed with a Finsen lamp. Some are pigmented, others not, the non-pigmented cells being metachromatic. Both are occasionally found in the same cell. There is no doubt that these cells ultimately become the chromatophores of older writers.

Hæmoglobin does play some *rôle* in the production of pigment, but is clearly not the source of all. Schwalbe proved that even hæmoglobin was not essential; pigment could be manufactured from the globin of the blood-plasma.

It is impossible to estimate the relation blood bears to pigment, since we are in the dark as to why cells should lose their capacity of building up pigment. Blood is present in leucodermic areas, and also in albinism, but absence of pigment is complete.

Absence of pigment must indicate some pathological change occurring in the cells themselves. This brings us to regard the chemical side of the question. The chemistry of melanin is not quite clear, but there is every reason to suppose that it belongs to the indol group. Whether it is of hæmatogenous origin is also impossible to say, since the old distinction of absence or presence of iron does not hold good, because globin, the mother substance of the plasma, is even more capable of becoming transformed into pigment than hæmatin, and globin is quite iron-free. It is possible that pigment formation is dependent upon some ferment action.

Bourquelot was able to prove that the dark coloration fungi undergo when dying is dependent upon an oxidising ferment, since he succeeded in producing the same colour when he mixed tyrosin with an emulsion of fungi. The ferment he named tyrosinase.

Gessard studied the action of tyrosinase on tyrosin, a red colour being formed, then a black, with finally a precipitation of black masses. The dark colour of insects' blood was also proved to be dependent upon the action of tyrosinase. The ferment obtained from the body-fluid of the pupæ of butterflies, when treated with tyrosin, forms a black pigment identical with melanin.

Gessard was able to find tyrosinase in melanotic tumours of horses, and in the skin of frogs and toads.

The final and best experiments are those of O. Fürth and Jerusalem. They extracted the blood-lymph of the pupæ of the Spurge-hawk moth (*Delphila euphorbiæ*), saturated it with ammonium sulphate, and dissolved the precipitate in 0·04 per cent. sodium hydrate. This soda solution was strong in tyrosinase, and when mixed with tyrosin melanin was formed. The presence of acid destroyed the action; the addition of alkali increased it.

Neuberg extracted a ferment from melanomata which did not produce melanin on the addition of tyrosin, but only when it came in contact with adrenalin.

This fact is of considerable importance, as Halle had previously shown that adrenalin was a by-product of tyrosin.

Primavera found that the increase of melanin in melano-sarcomata was accompanied by a decrease of tyrosin, pointing to the fact that some ferment action had been going on to produce the pigment. The production of pigment can be looked upon, then, as a metabolic process, affecting the proteid molecule of the cell, this metabolic change being due to the action of a ferment.

The further connection between metabolism and pigment formation is clearly shown in ochronosis, where the cartilage of the body becomes black. Ochronosis is associated with alcaptonuria, which is a disease affecting normal metabolism, *i.e.* the body loses the capacity of breaking up completely the aromatic group of the proteid molecule, viz. tyrosin and phenylalanin. Instead, oxidation products of these substances circulate in the body as homogentisinic and uroleucinic acids, and become excreted through the kidneys. These acids are capable of producing pigmentation of cartilage.

THE FUNCTIONS OF THE SKIN.

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Lecture VI.

The skin of man is characterised by its nakedness and the great development of the sweat-glands; it is, moveover, richly supplied with small blood-vessels, the size of which is controlled by the nervous system. When the body is too hot these vessels are dilated, and thus expose more blood to the cooling effect of the air or the evaporation of sweat. On the other hand, the vessels are contracted, and the blood is confined chiefly to the deeper parts of the body, when the loss of heat would be injurious. This naked condition of the skin is a great advantage, for it enables man by means of artificial clothing and shelter to withstand a greater range of temperature and climate than any other animal.

The temperature of the skin is liable to great variations in health and disease, but, as in the case of many common conditions, it has not been the subject of many exact investigations. The expressions, "a hot skin" and "a cold skin," we constantly use, but if we are asked to state in more definite terms what we mean we at once find how ignorant we are. Our sensations tell us that the skin is hot or cold, as the case may be, but knowledge obtained by our sense of temperature must always be inexact. Our standard is the temperature of our own skin, and that is liable to great variations. A thermometer must be used if we wish to determine the temperature of the skin more exactly, and it is necessary to insist that the thermometer is an instrument which should be used with intelligence. The prevalent idea is that the determination of temperature is so simple that it can be left to the nurse, and that the medical student requires no instruction in its use. The result is that most of the clinical charts as records of temperature are of little scientific value.

The temperature of the skin is related to its vascularity and to its secretions. It is possible, therefore, to study it indirectly as well as directly. The colour of the skin is a guide to its vascularity: white, when the vessels are uniformly contracted, and contain but little blood; red, when the vessels are dilated and well filled; and blue, or as the saying is, "blue with cold," when the contraction is not uniform and the blood is stagnant in some of the smaller vessels. The extremes can be easily recognised, but it is impossible to fix a standard for health. Some healthy subjects have naturally a pale skin, although there is no lack of blood or blood-pigment in the body; it may be that their skin is not so vascular, or that the cutaneous vessels are in a state of greater tone. Other subjects have a very sensitive nervous control of their vessels; the skin of their extremities quickly responds to changes of external temperature. The response may be so pronounced that on exposure to cold their fingers and toes "die away," and become quite bloodless. This is not caused, as many suppose, by failure of the heart, but to a local cessation of the flow of blood due to a contraction of the small arteries sufficient to withstand the pressure of the blood.

There are two methods in use for the determination of the temperature of the skin—the mercurial thermometer, with a flat bulb, and the thermo-electric pile or needle. Good results can be obtained with the former method, as John Davy, Waller, and others have shown. It is true that there may be sources of error, but these are more than counterbalanced by the ease with which observations can be made as compared with the complicated apparatus required for thermo-electric work. This contention will be substantiated best by a comparison of the results obtained by different observers, some of whom have used the one method, some the other. The following table affords such a comparison :

Method.	Mercurial thermometer.		Mercurial thermometer.		Mercurial thermometer.		Thermo-electric.		Thermo-electric.	
Observer.	J. Davy.		M. S. Pembrey.		B. A. Nicol.		Kunkel.		G. N. Stewart.	
	C.	F.	C.	F.	C.	F.	C.	F.	C.	F.
Temperature of air . . .	21°	(69·8°)	10°	(50°)	19·5°	(67·1°)	20°	(68°)	18·3°	(64·94°)
Forehead . .	—		—		—		34·1°	(93·38°)	33·04°	(91·47°)
Hand, back of .	—		26·25°	(79·25°)	31°	(87·8°)	32·5°	(90·5°)	—	
Hand, palm of .	—		30°	(86°)	32·5°	(90·5°)	34·4°	(93·92°)	30·95°	(87·71°)
Forearm . .	—		30·8°	(87·44°)	33·4°	(92·12°)	33·7°	(92·66°)	34°	(93·2°)*
Arm . . .	—		—		—		—		35°	(95°)*
Chest . .	34·44°	(93·99°)	—		—		34·6°	(94·28°)	34·57°	(94·22°)
Abdomen . .	35°	(95°)	34°	(93·2°)	34°	(93·2°)	34·6°	(94·28°)	35·16°	(95·29°)
Thigh . .	34·44°	(93·99°)	33°	(91·4°)	32°	(89·6°)	34·2°	(93·56°)	—	
Leg, calf of .	33·89°	(93°)	31°	(87·8°)	32°	(89·6°)	33·6°	(92·48°)	—	
Foot, sole of .	32·2°	(89·96°)	—		—		—		31·05°	(87·89°)

* Temperature of air in this case = 17·6° C. (63·68° F.)

An examination of the table shows that the temperature of the skin of the trunk is much more constant than that of the extremities. There is no uniformity in the temperature of the healthy body; the temperature is not constant in health notwithstanding the fact that it is often said to be so, and that clinical thermometers and temperature charts are marked with a line at 98·4° F. (36·89° C.) for the normal. The absence of uniformity is a sign of health and well-being; we are comfortable and unconscious of the fact that there are local differences in temperature which at once become manifest when we place our hands in succession on the face, chest, abdomen, and foot. As soon as the external conditions, such as heat, moisture, and absence of wind, become favourable for the development of a more uniform temperature of the body, discomfort and inefficiency arise. This question is one of the greatest importance in relation to the influence of climate and artificial systems of heating dwellings and work-rooms, and it is unfortunate that many authorities have overlooked the physiological aspect. In living things there is no uniformity, and all attempts to obtain uniformity in religion, politics, work, or social standing have failed. Uniformity would mean absolute stagnation—death.

The extravagant and dusty open fire is better than the closed stove or the radiators filled with hot water or steam, for it produces more variation in the temperature of the room, and this reacts upon the skin. Changes in the temperature of the skin stimulate the nervous system and produce a more steady growth and greater activity of body and mind. It would be a digression, however, to pursue this subject further, but there is little doubt that our variable climate is a blessing in disguise.

The value of determinations of the temperature of the skin lies, not only in the data obtained upon the distribution of heat in the body, but also in the evidence which, in conjunction with the values obtained for the internal temperature, it affords of the production of heat. If the internal temperature remains normal and the surface temperature is increased, a greater production of heat is indicated, provided that the external conditions be the same. This line of argument can be extended to variations of both internal and surface temperature, and conclusions can be drawn upon the questions of the production and loss of heat in health and in fevers.

The conditions which influence the temperature of the skin can be divided into two groups—the external and the internal. Of the former the most important is climate, which comprises temperature, moisture, and wind. The physiological effect of external temperature must be considered in relation to that of moisture, for it is not the reading of the dry bulb thermometer which is important as a guide so much as that of the wet bulb, which indicates how rapidly evaporation of moisture from the skin can occur.

A warm, stagnant, and moisture-laden atmosphere has a depressing effect upon the people exposed to it; it diminishes their activity, both physical and mental. The effect of work under such conditions is to increase the temperature, pulse, and loss of moisture out of proportion to the work done. Efficient work cannot be performed unless the temperature of the body is prevented from rising above a certain optimum. The temperature depends upon the production and the loss of heat; work increases the production, and the passage of more blood through the vessels of the skin and the evaporation of sweat increase the loss. A warm, moist, and stagnant atmosphere hinders the loss and taxes the power of accommodation of the worker. The result is that he either does less work or unwisely neglects the warning which he receives from his sensations and works at an uneconomical rate, to the detriment of his health.

When the temperature of the air is high both by the dry- and wet-bulb thermometers, the evaporation of sweat must be greatly increased in order to cool the body. This is shown by a comparison of the following results obtained upon soldiers when they performed a march of seven miles on hot and cold days with the same clothing, equipment, and load.

No. of men.	Increase in pulse.			Increase in rectal temperature.			Loss of moisture from body in grammes.			Increase in weight of clothes in grammes.			External temperature.	
	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.	Dry Bulb.	Wet bulb.
4	84	52	62	2·3° F.	0·6° F.	1·4° F.	2390	1140	1816	640	60	320	79°	67·5°
4	24	8	14	1·6° F.	0·0° F.	0·8° F.	555	300	419	40	0	27	45°	38°

Cold acting upon the skin produces reflexly a greater tone of the muscles of the body, makes muscular activity a pleasure, and increases the appetite. A cold bath in the morning is of value not so much for its cleansing properties as for the stimulating effect which it produces upon the nerves and muscles of the body. The skin is subjected to a sudden change from the warmth of the bed, and thus the nervous system of the man is trained to meet variations of temperature; his cutaneous vessels contract and thus prevent undue loss of heat. By practice he becomes immune to the effects of changes of temperature and less liable to chills.

The influence of clothing upon the temperature now requires consideration. Under ordinary conditions only the face and hands of Europeans are freely exposed to the air; the body and limbs are protected by clothes, and are surrounded by a layer of air with a temperature intermediate between the temperature of the skin and that of the external air. The main purpose of clothing is this inclusion of air; the different articles of dress form strata with different temperatures. The greater part of the surface of the skin is thus exposed to air which is warm, even when the external air is cold.

The air included in the pores of the clothing and between the different articles of dress has been estimated at twenty to thirty litres. The radiation and conduction of heat from the skin are diminished by clothing, and thus the temperature of the skin is maintained at a higher point than it would be if it were uncovered. This higher temperature will increase the loss of moisture from the body, but the net result is a saving of about 20 per cent. of the heat loss at a temperature of 15·56° C. (60° F.).

During muscular work in hot weather the clothes may retain large quantities of sweat if there be no free circulation of air. The cooling effect of sweating is partly lost in such cases, for it takes place from the surface of the clothes and only affects the skin through the layers of wet underclothing. The opening of the jacket, waistcoat, and shirt will bring about not only comfort, but also the most effective use of the moisture discharged from the body. There is no doubt that the greatest discomfort arises when the temperature of the skin is abnormally raised. It is in the skin that the sensations of heat and cold arise. An increase in both the deep and surface temperature shows that the body is warmed in all its parts and discomfort is then experienced; if, on the other hand, the skin be kept cool by sweating or exposure, no discomfort and no bad effects are experienced by a healthy man whose internal temperature has been raised a degree or two by hard work.

A man works more slowly when he feels too hot, or if he wishes to continue to work hard he increases the loss of heat from his skin by the removal of his coat and waistcoat, and by turning up his sleeves. The evaporation of sweat is thus facilitated, as shown by the following comparative observations upon soldiers after a march of seven miles:

No. of men.	Increase in pulse.			Increase in rectal temperature.			Loss of moisture from body in grammes.			Increase in weight of clothes in grammes.			External temperature.	
	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.	Max.	Min.	Aver.	Dry bulb.	Wet bulb.
5*	52	16	28	1·6° F.	0·6° F.	1·0° F.	1430	1000	1200	250	0	109	67°	58°
5†	48	24	41	1·8° F.	0·8° F.	1·5° F.	2000	1200	1500	480	90	254	69°	59°

* Drill order without jacket.

† Drill order with jacket.

In both cases the men performed the same march with the same equipment and load, but in the first they did not wear their jackets, in the second they did.

There is little doubt that observations upon the deep and surface temperatures of the body and the loss of sweat would throw much light upon the effects of different trades and occupations, in which the workers are exposed to hot air laden with moisture.

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CURRENT LITERATURE.

THE ÆTIOLOGY OF EPIDERMIDOLYSIS BULLOSA. M. F. ENGMAN and W. H. MOOK. (*Interstate Med. Journ.*, July, 1910, p. 499.)

THE histological examination of four cases has been already reported by the writers. In a fifth case the patient was the youngest of thirteen children, none of whom had ever suffered from any skin-disease, and none of his ancestors on maternal or paternal side had ever been known to have a similar affection.

Examination revealed numerous large and small bullæ on his hands, forearms, neck, and a few on the face. Some were serous, some sero-sanguineous, and a few on the hands were hæmorrhagic. There was considerable secondary staphylococcic infection. His mother stated that a blister was noticed on his left heel a few days after birth, and that ever since that time the blisters followed any slight or severe injury on any portion of his body. Examination of his body revealed numerous large and small superficial cicatrices, generally at points of irritation, such as buttocks, waist-line, ankles, where shoes were laced, and on his neck. The nails were rough, corrugated, some partially destroyed, though none entirely

He represented the dystrophic type of the disease; but the amount of infection suggested, in his case at least, that the dystrophic form may really not be a distinct entity, but an inherent tendency to scar-formation in certain individuals, as a result of severe or only slight infections.

A small piece of apparently normal skin was excised from the patient's thigh, fixed and hardened in alcohol, and stained with Unna's acid orcein, Weigert's elastic tissue stain, picrocarmin, thionin, hematoxylin, fuchsin, neutral orcein, and polychrome methylene-blue stains.

The epidermis in all sections was practically normal, except for slight œdema of the basal epithelial cells. The greatest change was in the almost complete absence of elastic tissue in the upper and papillary portions of the derma, an occasional fine fibril or minute network of only the finest fibrils being seen in the portion connecting the epidermis. The capillaries, not having the normal supporting network of elastic tissue, showed slight dilatation in the upper portions of the cutis. The elastic tissue in the deeper portion was present to a considerable degree, though the fibres were shorter, thicker, and not so wavy as is usually found in normal skin.

There was no cellular infiltration about the vessels indicating any kind of inflammation.

The lymph channels and spaces all showed marked dilatation—a natural consequence of the absence of the supporting elastic tissue. There was no elacin degeneration.

J. L. B.

INTRA-SPINAL INJECTIONS OF MERCURIAL SALTS. Lévy-Bing and Lévy. (*Annales des Maladies Vénériennes*, August, 1910, p. 561.)

Cyanide of mercury is the salt which contains the greatest quantity of Hg. (79·4 per cent.), and Sicard employs it in the following formula: Stovaine, 1 c.c.; cyanide of mercury, ¼ mgrm.; water alcoholised to 10 per cent., 1 cgrm. He injects 1 c.c. of this solution. The resulting pain is intense. The authors have injected biniodide of mercury in isotonic solution, in doses of 1, 2½, and 5 cgrm. Benzoate of mercury has also been injected in doses of 1 cgrm. per c.c. In all cases pain was great, perhaps less with the benzoate than the biniodide.

A report of twenty-three cases is given, and the authors conclude that the method has not been sufficiently studied nor its advantages sufficiently proved to recommend these methods as a routine course of treatment. Cases have been treated of general paralysis, tabes, myelitis, acute meningitis, and syphilitic brain disease. The results were *nil* in general paralysis, encouraging in tabes, acute meningitis and syphilitic meningo-myelitis.

J. L. B.

THE TREATMENT OF SYPHILIS WITH THE NEW EHRLICH-HATA ARSENIC PREPARATION. E. Hoffmann. (*Med. Klinik*, No. 33, 1910.)

At first the writer used the acid preparation of Wechselmann's method—trituration in a mortar after the addition of a few drops of methyl-alcohol in 10 c.c. distilled water, the addition of 2 c.c. $\frac{1}{10}$ normal NaOH, making up to 20–25 c.c. with distilled water, the method carried out aseptically. These injections, however, always caused great pain, sometimes fever up to 39·5° C. and heart trouble. He now uses an alkaline solution, but finds that the local skin-reaction is more marked, the spirochæte remain longer present, and the influence on the syphilitic phenomena takes longer to make itself felt. More recently he has adopted the method of intra-gluteal injection with subsequent massage, not caring to inject the drug intra-venously.

He calls attention to the fact that in the most recent writings on the subject of syphilis Schaudinn's name is never mentioned, although it is his discovery of the spirochæte and his theory of its relationship with trypanosomes which has made Ehrlich's work possible.

J. L. B.

A FURTHER CONTRIBUTION TO THE STUDY OF ELASTIC TISSUE IN EPIDERMOLYSIS BULLOSA. M. F. Engman and W. H. Mack. (*Journ. of Cut. Dis.*, June, 1910, and *Amer. Derm. Assoc.*, 1909 (illustrated).

In a paper published in 1906 the authors described the results of a study of the apparently healthy skin in two cases, showing the elastic tissue absent or only sparsely distributed in the papillary and sub-papillary portions of the cutis. They now report the findings in two other cases. "If the elastic tissue were absent in the upper portion of the cutis and deficient or deformed in the deeper portion, we would expect to find, from its known functions, the cutis to be bathed with moisture, from the loss of tone in the capillaries and from the deficiency of this tissue in the deeper portions of the cutis." The skin thus soaked would undergo the histological changes found, and a trauma would excite an imperfectly controlled reaction, and so produce the bulla.

Case 1.—A locomotive fireman, of splendid physique, aged 21 years, presented himself with bullæ over the palms and soles. He had been subject to the formation of bullæ from babyhood, but there were no other cases known in the family. His nails were slightly dystrophic.

Case 2.—A man, aged 34 years, suffering a good deal from the bullous state of his hands and feet, which began immediately after birth. His mother, brother, and one of two sisters had the same trouble.

In these two men, who were not severely affected, the condition of the elastic tissue was studied in the apparently healthy skin, and the authors admit that the gradations and deficiencies found in the elastic tissue in these two cases are slight, but they think there is sufficient evidence that it is abnormal in quantity, arrangement, character, and possibly slightly in chemical affinity. The small fretwork line of elastic fibres, which mount from a short distance just under the papillæ to their tops, and decussate to form the well-known fretwork just under the epidermis, is not continuous, and is in many places absent. The authors have repeatedly examined the elastic tissue of bullous impetigo, pemphigus, bullous Lichen planus, Dermatitis herpetiformis, eczema, and normal skin, and have never found before this the arrangement and quantity of elastic tissue seen in these cases of Epidermolysis bullosa.

T. C. F.

BOECK'S SARCOID. O. Urban. (*Archiv f. Derm. u. Syph.*, Bd. ci, Heft 1.)

The case cited was a small, painful nodule on the nose, which gradually spread on to the cheeks. The colour of the lesion was dark rose red with a faint bluish tint, the colour being more pronounced peripherally. The lesion was sharply circumscribed and resistant to the touch. The cervical glands were palpable. Nothing else abnormal found. Histologically the nodule was characterised by circumscribed collections, mainly of epithelioid cells, and also lymphoid cells; in the middle of these infiltrated areas were several giant cells. The vessels show in part a marked endarteritis. Nowhere is there any tendency to caseation. Animal experiments proved negative. The condition improved on injections of arsenic. The author discusses Boeck's sarcoid and Darier's sarcoid and comes to the conclusion that both are identical, the main characteristic being tubercular nodules, situated in the cutis or sub-cutis, surrounded by comparatively few small round cells, none of which are degenerated, nor is the re-caseation in the nodules themselves, thus distinguishing the condition from other tubercular cutaneous affections. Women seem to be affected more than men, and although Boeck considers the face to be the most common part affected, Darier's opinion is quite the reverse, stating that it can occur on any other part of the body. Arsenic and tuberculin were recommended for treatment.

J. McD.

THE DISCOVERY OF A PROTEOLYTIC FERMENT IN THE CRUSTA LACTEA INFANTUM. Samberger. (*Archiv für Derm. u. Syph.*, Bd. ci, Heft 2 and 3.)

It has long been the practice to remove the crusts caused by various skin-affections. The author proved that healing did not take place until the crusts were removed, owing to a proteolytic ferment which destroyed the tissues both beneath and around. It was also discovered that this ferment was only active in an alkaline medium. Therefore treatment rested in the employment of acids, which on the one hand destroyed the ferment action, and on the other did not act as an irritant. Ointments consisting of benzoated lard and wax fulfilled both these conditions. An ointment specially recommended for eczema in children was benzoated lard mixed with 5, 10, and 15 per cent. stearin.

J. McD.

NÆVUS ANÆMICUS. R. Stein. (*Archiv für Derm. u. Syph.*, Bd. ci, Heft 2 and 3.)

Nævus anæmicus was first described by Vörner in the year 1906. Six cases are reported in various parts of the body in which areas of skin paler than the surrounding normal skin occurred; most noticeable were those affecting the face, since the contrast between the anæmic area and the red colour of the cheek was more pronounced. By irritation blood can be brought to the pale areas, but on relief thereof the blood disappears quicker than when the same experiments are carried out on the normal skin. These pale areas are not infrequently associated with telangiectatic nævi. According to Vörner the condition is caused by an absence of development of the arteries and veins, their place being taken by capillaries. Neither Fischer nor the author were able to notice any pathological distinction between the anæmic and healthy skin. Fischer is inclined to think that the condition is due to some nervous disturbance of the vessel innervation.

J. McD.

DIE SYPHILIS DER NASE, DES HALSES U. DES OHRES. P. H. GERBER. Zweite Auflage. Verlag von S. Karger, Berlin, 1910, pp. 144.

THIS work is the outcome of an article which appeared in the *Dermatologische Zeitschrift* several years ago.

The author was stimulated to publish it in book form, which received great success, resulting in a second edition, now before us, and also a translation into Russian.

Dr. Gerber's previous works on nose and throat diseases are too well known to require further comment, and as the above is written from his own personal observations based on a long experience, we can most strongly recommend it to all interested in the study of syphilis.

The observations on the nose and throat lesions in congenital syphilis are of especial value. The treatment which the author has found most useful in the various conditions considered is fully discussed.

A careful survey of the literature on the subject is noticeable throughout.

The work is much enhanced by the addition of four coloured plates, which have been most carefully prepared, and also of a good bibliography.

J. McD.

A CASE OF CHRONIC DERMATO-MYOSITIS. SCHENK VON GEYERN. (*Wien. klin. Rundshau*, 1910, Nos. 7, 8, 9, 10.)

THE disease was described in 1887 by Wagner, Hepp, and Unverricht. The disease was an acute inflammation of the whole striped muscular tissue of the body, with a fatal termination. It received the names of polymyositis, pseudo-trichinosis, and dermato-myositis, the last maintained owing to the accompaniment of urticarial and erysipeloid rashes. The disease can run an acute, subacute, and chronic course, the last being the rarest. The case recorded was a man, aged 30 years, who observed in March, 1906, a redness and swelling in the region round the eyes, painless, spreading later to the backs of the hands, sides of neck, and thighs. Patient gradually lost weight, and in May became bed-ridden, when the whole body became more or less affected; red spots appeared, which itched and healed with scaling. Patches of œdema appeared on the body, in between which there were white areas, slightly sunken beneath the level of the skin. These white areas were covered with scales. Lymphatic glands not markedly enlarged. The diagnosis was then made of partial skin-atrophy and œdema. In parts the œdema became so pronounced that one had recourse to drainage, and patient could scarcely move. A rash resembling measles then appeared; the œdema in other parts, which was always red like erysipelas, would disappear and reappear. The urine gave the diazo-reaction. The slightest scratch was productive of bleeding. Patient was much troubled with profuse expectoration towards the latter stage of the disease; temperature rose, and the patient died February, 1907. The skin after death was in parts deeply pigmented, and here and there covered with bullæ. There was fluid in the pleural cavity, pericardium, and abdomen. There was general œdema of every organ in the body; most noticeable were the changes in the muscles; all the fibres were somewhat shortened, the cross-striation scarcely visible, the long striation, on the contrary, obvious. The nuclei of the sarcolemma were increased both in number and size. The muscular atrophy resembled that seen in beri-beri. The skin showed atrophy and flattening of the papillæ; the epithelium was thinned, the stratum corneum, on the contrary, thickened; pigment in the cutis increased; the vessels in the corium were surrounded by a thick mantle of round-celled infiltration. The disease was marked by its exacerbations, and it was due to a pneumonia that the patient died. The progressive paralysis of various muscles, independent of a neuritis or a central disease, enabled one to establish the diagnosis of dermato-myositis. The exanthem was partly measle-like, urticarial, and erysipeloid. Another characteristic was profuse sweating; mucous membranes were also swollen, and post-mortem ulcers were found. Here and there in the course of the disease swellings about the size of one's fist were to be felt in the muscles of the limbs. The diaphragm, cardiac muscle, and eye muscles were only slightly affected; the blood-count showed only an increase of the eosinophiles. Sclerodermia was put out of court owing to there being fever and not enough pigmentation. Gregarines were nowhere to be found; cultures gave always a negative result. No cause could be found for the condition. The treatment naturally rested in the alleviation of symptoms.

J. McD.

REVIEWS.

LES TEIGNES. III: LES MALADIES CRYPTOGAMIQUES.*

THIS volume is the most complete work which has yet been published on the subject of ringworm and favus. The fact that a book of 850 pages has been devoted to the consideration of these subjects shows the great advance which has been made in our knowledge of them during recent years. This advance has been to a large extent due to the indefatigable labours of M. Sabouraud. With regard to the purely scientific aspects of *Les Maladies Cryptogamiques*, the clinical appearances produced by the different fungi and their treatment, there is probably no one else whose knowledge and experience is so great as that of the author. Though essentially a book for the expert, this work must demand the attention of everyone interested in diseases produced by moulds both in man and the lower animals.

In the first part of the volume the history of the subject is described in detail, special reference being made to the researches of Gruby, whose work, chiefly as a mycologist, may be said to have laid the foundation to the conception of the plurality of the fungi of ringworm.

The second part is devoted to the microscopical and cultural methods for the preparation, examination, and identification of the different fungi. The method of staining which he recommends is as follows: The stump is epilated and placed in chloroform to remove the fat, boiled for a few minutes in formic acid in a watch-glass, then washed in distilled water, stained for one minute in Sahli's methylene-blue solution, washed, dehydrated, and mounted. Sahli's blue has a transparent effect and gives superior preparations to those made with more opaque colours, such as anilin violet. On the whole, however, Sabouraud considers that the most satisfactory specimens for diagnostic purposes, as well as for photography, can be obtained by soaking the stumps in 30 per cent. potash.

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* *Les Teignes*: III. *Les Maladies Cryptogamiques.* By Dr. R. SABOURAUD Masson & Cie. Paris, 1910. Price 30 fr.

With regard to cultivation media the writer urges the necessity of the adoption of a standard medium by all those who are working specially at the subject in order that the results can be compared, for even slight variations in the mediums employed are sufficient to give cultural differences which may make it impossible to identify the precise fungus. The following two media are recommended: (1) Distilled water, 1000 grm.; maltose brute (de Chanut), 40 grm.; peptone granulée (de Chassaing), 10 grm.; agar-agar, 18 grm. (2) Distilled water, 1000 grm.; glucose massée (de Chanut) (1), 40 grm.; peptone granulée (de Chassaing), 10 grm.; agar-agar (2), 18 grm.

The cultures grow best at a temperature of between 15° and 30° C. The tube should not be covered by rubber caps as it leads to the "senilisation" of the culture, and it is no disadvantage to expose them to the variations of temperature such as occur at night and during the day.

An important section of this part is devoted to the subject of pleomorphism of the cultures. This is the peculiar deviation from the normal, which occurs chiefly where sugar media are employed, and consists largely in the superimposing on the culture of a white duvet which gives it a fluffy appearance. In connection with each culture there is a typical pleomorphic form characterised by the white duvet. This is supposed to be a retrogressive phase, and to consist of sterile mycelial threads instead of the spore-bearing hyphæ of the true culture.

The different forms of fungi responsible for ringworm and favus are described. In Paris out of 500 cases 159 were due to microsporon, 218 to trichophytons, and 52 to favus. Sabouraud describes 11 species of microsporon, 15 of Trichophyton endothrix, 15 of Trichophyton ectothrix, and 5 of favus which affect man and certain of the lower animals.

The final section is devoted to the consideration of the treatment of ringworm and favus, special attention being given to that by the X-rays.

With regard to the important question of the possible accidents to the brain which may result from full therapeutic doses of X-rays to the scalp, Sabouraud makes the definite statement that he knows of no one in France who holds the opinion that the brain can be injured in this treatment if properly carried out. He has himself treated over 2000 cases and has never seen the slightest injury to the brain nor any suggestion of an arrest in intellectual development produced by it, and as he has been employing the treatment since 1903 ample time has elapsed for evil effects to have shown themselves. He refers to a case of a child suffering from rickets and in whom the fontanelle was still open, which was X-rayed, but in spite of this fact no harmful effect followed.

With regard to the other important question, namely, whether a permanent alopecia may result from an exposure to the X-rays without a definite radiodermatitis taking place, Sabouraud considers that if such an accident did occur it was due to an over-dose, the same region being exposed to more than one full dose at too short an interval, or to the regulation distance of 15 cm. between the anti-cathode and the scalp not being adhered to. The volume is profusely illustrated with drawings and photographs of microscopical specimens, and of the different types of cultures and the clinical lesions produced by them.

Manual of Tropical Medicine.*

This manual will be welcomed by students of tropical medicine and practitioners in the tropics. It embodies the knowledge which the writers found necessary to acquire and use in the course of their work in tropical Africa and Asia. It is issued in the handy "University Series" of the publishers, and contains a vast amount of information on the ætiological and clinical aspects of tropical medicine in a compact form. The portion of it with which we are most concerned is that which deals with "Tropical Skin-diseases." This section is as complete, if not more so, than that dealing with the same branch of the subject in any other text-book in the English language. Owing to his discovery of the *Treponema pertenue* of yaws and his various writings, Castellani's name is now well known as that of an expert on tropical dermatology. The section on leprosy is concise, adequate, and well illustrated. Frambœsia tropica is described at considerable length, special attention being devoted to the *Treponema pertenue.* This organism is constantly present in the primary lesion and in the unbroken papules of the general eruption. It is found also in the spleen, lymphatic glands, and bone-marrow. It has not yet been demonstrated microscopically in the blood, but there is every reason to believe that the blood is infectious, as it is capable of conveying the disease to monkeys whith are susceptible. In monkeys the inoculation period varies from sixteen to ninety-two days, when a typical infiltrated crusted lesion develops at the site of inoculation. In monkeys of a low class, such as the Macacus, the eruption is localised to the seat of inoculation, but the treponema is found in the spleen and lymphatic glands. An important point arising out of the inoculation experiments in monkeys is the observation that monkeys immunised for yaws do not acquire immunity from syphilis, and monkeys immunised for syphilis only acquire a partial immunity from frambœsia—facts which go far to prove that the two diseases are distinct.

The chapter on the "Dermatomycoses" is particularly full, and deals in the first instance with the various forms of ringworm of the tropics. The authors restrict the use of the somewhat loosely applied term "Dhobie itch" to Tinea cruris. They describe in addition a number of varieties of tropical Tinea circinata, such as Tinea nigro-circinata, a trichophytosis occurring among natives of Ceylon, which is most frequent about the neck and scrotum, and consists of a few rings with thick elevated margins encircling a patch of black skin; Tinea imbricata, Tinea intersecta, Tinea flava, and Tinea nigra; the last two varieties, though somewhat resembling Pityriasis versicolor, being regarded as due to different fungi. The various forms of tropical ulcers are described in considerable detail, and seventeen different varieties are referred to.

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* *Manual of Tropical Medicine.* By Aldo Castellani, M.D.Florence, Director of the Clinique for Tropical Diseases, Ceylon; and Albert J. Chalmers, M.D.Vict. and Liverp., F.R.C.S.Eng., D.P.H.Camb., Registrar and Lecturer on Pathology and Animal Parasitology, Ceylon Medical College. With 373 Illustrations in the text and 14 Coloured Plates. London: Baillière, Tindall, & Cox, 1910. Pp. 1242. Price 21*s*. net.

A chapter is included on cosmopolitan skin-diseases, which is of special interest, indicating the familiar skin-affections which may be met with in natives in various parts of the tropics, and the peculiarities they assume in dark skins. The volume, dedicated to Sir Patrick Manson, the recognised founder of "scientific tropical medicine," is thoroughly up to date, well indexed, and contains numerous references to the various authorities on the different subjects dealt with. It may be heartily recommended to all interested in this advancing subject.

X-RAY THERAPEUTICS IN DERMATOLOGY.*

As chief of the Light Department at the Berlin Kgl. Univeritätspoliklinik Schultz has had a large experience of the treatment of skin-diseases by X-rays, and has ably summarised it in his present volume. In the preface he states that the two extreme results of the action of X-rays are surprising cures and serious injury, and the exclusion of unsuitable cases and avoiding all injurious after-effects in cases treated is undoubtedly a duty of every X-ray therapeutist. In this connection the question of idiosyncrasy or undue capacity of reaction to X-rays is of the greatest importance, not only from a therapeutic but also from a forensic standpoint, and we turned with some interest to Schultz's views on the subject. In the literature there are cases of general reaction recorded, urticarial, papular, and eruptions resembling toxic erythemata—sometimes with, sometimes without fever—following the treatment of either circumscribed or more extended skin areas. Reactions, therefore, without doubt occur after X-rays which differ from ordinary X-ray reactions, but unless it can be shown that these reactions followed a minimal or very small dose the existence of idiosyncrasy cannot be said to be proved. Holzknecht believes that such exanthemata only follow burns, and are to be regarded as toxic erythemata due to absorption of Röntgen necrosed products. They cannot, therefore, be properly looked upon as cases of idiosyncrasy, and it is of interest to note that apart from such burns Schultz, in 25,000 X-ray applications, saw no such reaction.

Hypersensibility to X-rays is another thing, and may vary in the same patient at different times. Thus a woman may develop an erythema after X-rays during the menstrual period which would not follow the same dose at another time. Again, some patients will show with only $\frac{1}{3}$ of a full dose the same swelling, redness, bullæ, and crusts corresponding to a reaction of grade 2, which the majority of patients would only develop after a full dose, and Schultz gives photographs of such a patient. A lesser reaction, corresponding to grade 1, Schultz has also seen in a case of leukæmic tumours of the face after $\frac{1}{3}$ dose, and after $\frac{1}{2}$ dose in a case of Lepra maculosa of the thigh. From a legal point of view the general question of idosyncrasy is not so important as whether, in the particular case under discussion, there was evidence of idiosyncrasy, hypersensibility, or excessive dose, and this can only be determined when the exact dose administered has been recorded. At the radio-therapeutic institute of the Charité every dose is entered in a book, and is only administered in the presence of the physician, but from a medico-legal standpoint it is doubtful whether the physician must necessarily be present in the room during the whole period of X-ray application if he personally sees that the current is shut off when the appropriate dose has been administered.

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* *Die Röntgentherapie in der Dermatologie.* By FRANK SCHULTZ. Berlin: 1910. Julius Springer. With 130 diagrams. Pp. 143. Price 6 marks.

Photographs of several cases of X-ray ulcers are given, in one case extending right down to the periosteum. Another picture shows the ulceration which ensued on a child's hand three days after a full dose with a tube of 2·5 Wehnelt for warts. The ulceration healed up, but the warts, for which the X-rays had been applied, remained.

The question of damage to growing bones has perhaps obtained undue prominence from the experiments which have been carried out on animals, and especially on new-born animals and intra-uterine fœtuses. But these experiments are not exactly comparable to the cases of human beings who undergo X-ray treatment, and no unquestionable case of injury to a growing child's bones has been recorded. The cases of Hemiatrophia facialis ascribed to X-ray treatment can be explained in other ways and have other ætiology, and we must remember how many children's hands and feet have been treated by Röntgen rays for months without producing any injury to the growing bones, although the skin-coverings are exceptionally thin.

Schultz has not found much benefit from X-rays in Acne rosacea, and he gives a photograph of a woman with this disease who was treated for nine months without benefit. Neither does he employ X-rays in kerion; on the other hand, cases of Sycosis non-parasitaria often do well with $\frac{1}{3}$ dose. Where such treatment fails, epilation with $\frac{4}{5}$ dose may be tried, but rarely with success, and one case was even rayed up to producing slight atrophy and permanent loss of hair without benefit. Such cases may, however, improve with combined X-ray and high-frequency (unipolar) treatment. The treatment of hypertrichosis by X-rays is universally recognised to be a failure, since the treatment must be carried to the stage producing atrophic changes in the skin and other grave dangers.

Hyperidrosis seems to be benefited in some cases, especially in patients under twenty years of age, but it is necessary to give as much as $\frac{3}{4}$, $\frac{4}{5}$ or $\frac{1}{1}$ full dose with 7 Wehnelt. But some patients show no improvement with such treatment, and it is impossible to deduce clinically the type of cases which will benefit.

The immense amount of material at Schultz's disposal and his great experience make his conclusions of more than ordinary value, and his book may be confidently recommended to all who have to prescribe or carry out X-ray treatment.

J. L. B.

THE BRITISH
JOURNAL OF DERMATOLOGY.

NOVEMBER, 1910.

X-RAY DERMATITIS AND EPITHELIOMA.

By J. L. BUNCH. M.D., D.Sc.,
Physician in Charge of the Skin-Department, Queen's Hospital for Children.

Radcliffe-Crocker was the first in England to publish a case of X-ray dermatitis, in 1899. Since then a large number of cases has been recorded, occurring chiefly in radiographers and those responsible for testing X-ray tubes before they are sold. In many of these cases the onset of the dermatitis was slow, and in consequence work was continued without any of the precautions which are now recognised as necessary being taken. When an acute dermatitis has set in rapidly, the pain, burning sensations, œdema and bullæ have called attention to the danger, and the patient has had a chance of recovery through discontinuing his work. But in every case of X-ray dermatitis there is a certain latent period, usually at least a week, and longer than this when a less excessive overdose has been given. In an acute dermatitis of the mildest or first degree, the dermatitis sets in about the twelfth day, and disappears again in a week. In a more severe dermatitis of the second, third, or fourth degree, the onset is proportionately more rapid, the recovery more tardy, until in the severest forms the ulceration takes many months to heal, if it heals at all.

In the chronic cases the total overdose of rays has usually not only been greater, but also more frequently repeated and prolonged, and the dangers of epithelioma supervening are therefore all the greater. In such cases a co-existing atrophy and hypertrophy are induced, not only the skin and subcutaneous tissue being involved, but also nails, bones, and nerves. The atrophy is best shown in the superficial layers of the skin, sweat-glands and hairs, the hypertrophy in the formation of warty growths on the skin, in hyperkeratosis of the nails and proliferation of the endothelial cells of the blood-vessels. In the milder cases, redness and hypertrophy of the affected skin, with thickening of the horny layer and of the subcutaneous tissue, are often well marked, and the superficial vessels dilate to form telangiectases. Warts generally accompany this hypertrophy, and when removed leave small depressions, which are especially tender. The redness is subsequently accompanied or replaced by pigmentation, areas of atrophy and thinning of the skin appear, and if warts have not yet made their appearance they now begin to form pigmented raised prominences on the affected skin area. Cases may remain in this chronic condition for years, without more than a certain amount of itching or numbness. The severer cases go on, as a rule, to ulceration, and even the formation of epitheliomatous lesions, with intense pain and metastatic deposits in internal organs, leading to death. These ulcers seem to be more painful at night than in the day-time, leading to great insomnia and depression, the pain being of a burning or tearing character, little relieved by drugs, except, perhaps, large doses of morphia or alcohol.

The ulcers are not characteristic; they have the usual irregular outline and sloughy floor.

The following is a description of such a chronic case, which has fortunately not gone on to ulceration.

The patient, a man, aged 62 years, was a maker of Röntgen-ray tubes for about six years in the early days of X-rays. He was in the habit of X-raying his own hands as a test of the finished tubes, and this in time produced an inflammatory dermatitis, especially of the dorsa of the hands, with a considerable amount of irritation. He then gave up the manufacture of tubes and was engaged in wireless telegraphy work, but the dermatitis did not diminish, and, indeed, increased for a time, finally becoming stationary.

Present state.—The lesions are now confined to the backs of both hands, which are dry, red, and fissured, the three middle fingers being more affected than the thumb and little finger. The skin is thickened, and the natural lines of the hands, especially in the neighbourhood of joints, deeper than normal and more distinctly defined.

The surface of the skin is in places scaly, in others pigmented, and there are present, diffusely scattered over the surface, some small horny growths about the size of a pin's head and of a somewhat brownish tint. The nails are brittle, but otherwise only slightly affected. There is slight thickening of the palms of both hands. The hands are not now painful.

I excised a small oblong piece of the skin on the dorsum of one hand, including a small wart and some of the adjacent inflamed skin, and sewed the place up. It healed perfectly and readily, in spite of the damaged condition of the skin. Sections showed in the area surrounding the wart most markedly a thinning of the horny and prickle-cell layers and narrowing of the deeper blood-vessels of the corium, with proliferation of the endothelium, leading in some places to almost entire occlusion of the vessels. Some infiltration of small round-cells was to be observed in the neighbourhood of vessels, consisting of lymphoid and plasma-cells. Sweat-glands and hair-follicles were absent in the sections. The superficial layer of the stratum corneum was irregular and scaly, and the whole of this layer was thinned, although not so markedly as the prickle-cell layer. The papillæ were ill defined and the interpapillary spaces had almost disappeared.

Where the section passed through the wart itself there was marked epithelial proliferation, the cells extending in long processes into the corium, the papillæ being well defined and containing dilated blood-vessels. The horny layer of the epidermis was thickened and hyperkeratotic, the prickle-cell layer greatly hypertrophied, and the cells composing it swollen and occasionally vacuolated. The endothelium of the blood-vessels was proliferated and the vessels in places surrounded by an infiltration of plasma and polynuclear cells. The proliferation was best marked in the arteries: in the veins the coats showed less marked changes, and the thickening of the walls and narrowing of the lumen was chiefly due to a thick concentric layer of large connective-tissue cells. The subjacent layers of the corium had been invaded by a considerable amount of fibrous connective tissue. No glands or hair-follicles appeared in the section.

It is of course well recognised that cases of Lupus vulgaris occasionally develop into epithelioma, and Steinhaus has collected eighty-three cases of epithelioma following lupus without X-ray treatment.

When, however, we consider how frequently Lupus vulgaris patients are treated with X-rays, there must often be a history of X-ray exposures preceding the epithelioma. Whether there is any causal connection between the X-rays and the epithelioma, as many believe, it is impossible to say, but it appears improbable in view of the large number of Lupus vulgaris cases which are X-rayed for months or even years without any visible tendency to epitheliomatous development. Nevertheless, it does seem possible that, in certain predisposed individuals, prolonged X-ray treatment may have a certain action on the epithelial cells which is not entirely favourable, even if it does not directly stimulate them to proliferation and downgrowth. The following case is one in which epithelioma supervened on Lupus vulgaris after X-rays had been applied. The patient was a man, aged 64 years, who sixteen years ago "stuck" his comb into his cheek while doing his whiskers and made a sore place, which gradually increased in size. He was treated in various ways for some years without improvement until four years ago, when X-ray treatment was applied for some time. The exact particulars and duration of these X-ray exposures I could not definitely ascertain, but they were continued until the whole of the lupus had healed up, excepting a small central patch. Two years ago, however, this patch began to spread again, became much larger, and another patch developed on the centre of the cheek, broke down, and formed an ulcer. A year ago another smaller lesion developed anterior to these, near the ala of the nose, and ulcerated. Patient's father died when he was 92. His grandmother is said to have lived to 104. His mother lived to 88. One brother is said to have "a cancer" of the rectum, and a niece, aged 45 years, also to have "a cancer." When seen, he was a healthy-looking man of 64. On the left side of the face was an area of scarring extending from the outer canthus to the angle of the mouth, from above, down, and from the ala of the nose to within 1½ in. of the tragus. The lower and posterior border of this was marked by a line of granulations. At the upper part of the area of scarring below the outer canthus was a circular ulcer about ¾ in. in diameter. Its edge was raised, the floor covered by a dry crust, and its base indurated and fixed to the malar bone. Surrounding the ulcer was a ring of induration extending ¼ in. beyond its margin. There was ectropion of the outer part of the left lower lid. Just above the ala of the nose was a patch of Lupus vulgaris $\frac{1}{4}$ in. in diameter. There was no enlargement of the parotid or cervical glands.

I made a biopsy, and sections of scar-tissue at a distance from the ulcers showed thinning of the horny and prickle-cell layers, with narrowing of the deeper blood-vessels and occasional thrombosed telangiectatic vessels on the surface. The lupus nodules showed the ordinary characters of Lupus vulgaris. Sections through the edge of an ulcer showed the ordinary down-growth of columns of epithelial cells, forming irregular cylindrical processes, separated by fibrous tissue containing abundant blood-vessels, and infiltrated with plasma-cells. Cell-nests were present in places, but the cells of the columns nearest to the fibrous and vascular tissue were rounder than those in the centre of the columns.

I do not propose to deal here with the question why one individual develops epithelioma after a few exposures to X-rays while another, after years of repeated exposure, does not. A definite idiosyncrasy to X-rays has been assumed by some, and generalised inflammations of the skin have been recorded after the exposure of localised areas and advanced in support of the theory. But however willing we may be to admit the existence of hyper-sensibility to X-rays—and I, personally, admit it freely—the assumption of a definite idiosyncrasy is quite another matter, and cannot be said to have been proved.

On comparing the results arrived at by different observers it seems clear that excessive doses of X-rays affect all parts of the skin, the most marked changes being seen in the connective tissue of the corium and subcutaneous tissue, in the vessels and the skin-glands. The epidermis becomes either thickened or atrophic, but if the hyperkeratosis, which often occurs, be also looked upon as atrophic, it is possible to describe all the changes as degenerative. At first these degenerative changes can be repaired, but when the vessels become seriously involved these reparative changes become less and less perfect, the proliferative efforts of the epidermis less and less effectual, then the epidermal cells break down and ulceration follows.

It is not necessary now to discuss the theory that such a series of proliferative changes going on for years as a result of X-ray irritation serves as a series of auto-inoculations, or whether an augmentation of the growth power of the epidermal cells, at the expense of differentiation, enables them to proliferate at the expense of the other tissues of the skin and so lead to their downgrowth and displacement of the degenerate subjacent tissues. It is true that Wyss has insisted that X-ray carcinoma is the first experimental carcinoma, but at present we can only include it in the already considerable group of cancers due to irritation, and look upon X-ray dermatitis as a well-recognised pre-cancerous condition.

THE FUNCTIONS OF THE SKIN.

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Lecture VII.

In the previous lecture evidence was given to show how important the functions of the skin are in the regulation of the temperature of man. The range of external temperature which man can tolerate is as wide as that between the temperature of the tropics and that of the arctic regions. There are, however, other points to consider besides the external temperature; moisture and wind are important factors. It is well known that a hot moist and stagnant atmosphere imposes a greater tax upon a man's power of accommodation than even a considerably higher temperature when the air is dry and in motion. This question is one of practical importance in its bearing upon the health of men working in the mines and factories of this country, and recently much attention has been directed to it owing to the observations and experiments of Haldane. The results of his work show that in very warm air it is the temperature indicated by the wet-bulb thermometer which determines the ill-effects produced in man. The limits of accommodation are passed when the temperature of the air as shown by the wet bulb exceeds 88° to 90° F. (31·1° to 32·2° C.), even if the man is stripped to the waist and is doing no work; under such conditions the temperature of the body rises steadily, the pulse becomes rapid, and there is profuse sweating, accompanied by dyspnœa and exhaustion. The condition is one which would end in heat-stroke if the subject of the experiment continued to expose himself to the hot moist air. When muscular work was performed the rise in the temperature of the body was much more rapid, and began when the air was at a much lower wet-bulb temperature—about 80° F. (26·7° C.).

In the Levant and Dolcoath mines in Cornwall the temperature of the air in the workings varies from 80° to 93° F. (26·7° to 33·9° C.), and the readings of the wet- and dry-bulb thermometers are generally the same—that is, the air is saturated with moisture. Haldane found that the miners could only do work in a very leisurely manner, although they were stripped and accustomed to working in the hot mine.

When the air is in motion a higher wet-bulb temperature can be borne, for the stratum of hot air saturated with moisture by contact with the skin is replaced by cooler air. The effect of wind in cooling the surface of the skin is well known to all who have experienced cold east winds in this country. Arctic explorers lay stress upon the contrast between the effects of cold upon a calm and upon a windy day. During Parry's expedition to the Polar seas the sailors found that they suffered less discomfort from cold when on a calm day the temperature of the air was so low that mercury was frozen, − 40° F. (− 40° C.) than they did when the temperature was 10° F. (−12·2° C.) on a windy day.

The extent of the surface of the skin is an important factor in relation to the loss and production of heat in all warm-blooded animals, especially in man. The smaller the animal is the greater is the surface of its body in relation to its mass or weight, for surface increases as the square and weight as the cube. If the weight, for example, increases from 1 to 8 and 27, the respective surfaces increase from 6 to 24 and 54; the ratio of the increase of the surface is 1, 4, and 9. The internal temperature of a small warm-blooded animal is as high as, or even higher than, that of a big animal; it follows, therefore, that its production of heat must be greater, or its loss of heat more retarded by a better protective coat. Many small mammals and birds have well-developed coats of fur or feathers, as the case may be, but at the same time they increase their production of heat by an exchange of material more active than that of larger animals of the same species. This has been proved by experiments upon animals and man. Richet made an interesting series of experiments upon the output of carbon dioxide of dogs of different sizes, and found, as the following table will show, that it bore a very constant relation to the surface of the body.

Weight of dog.	Carbon dioxide discharged per kilo and hour.	Carbon dioxide discharged per square decimetre and hour.
Kilogrammes.	Grammes.	Grammes.
26	0·925	0·250
24	0·940	0·244
20	0·970	0·236
16	1·200	0·270
14	1·045	0·228
12	1·120	0·229
10	1·200	0·233
8	1·300	0·233
6	1·400	0·227
5	1·550	0·242
4	1·750	0·245

Sondén and Tigerstedt's researches upon the respiratory exchange and total metabolism of man show that over and above the greater respiratory exchange due to the relation between surface and mass there is a greater combustion due to the age of the child : the younger the child the greater is this excess. The following table gives some of the average results obtained by Sondén and Tigerstedt :

Average age, males.	Average weight.	Carbon dioxide discharged per hour.	Carbon dioxide discharged per kilo and hour.	Carbon dioxide discharged per square meter of cutaneous surface and hour.
Years.	Kilos.	Grm.	Grm.	Grm.
$9\frac{2}{3}$	28	33	1·21	29·9
$10\frac{1}{2}$	30	33	1·11	28·2
$11\frac{1}{2}$	32	34	1·06	27·5
$12\frac{1}{2}$	34	34	1·00	26·5
14	45	45	1·00	27·6
$14\frac{1}{2}$	45	44	0·96	26·7
$15\frac{1}{2}$	51	42	0·81	23·5
17	56	45	0·81	24·2
$19\frac{1}{2}$	60	43	0·72	21·8
23	65	38	0 58	18·6
25	68	38	0·57	18·5
35	68	35	0·52	16·9
45	77	37	0·48	16·3
58	85	34	0·41	14·2

Heat is lost from the skin by conduction and radiation and by the evaporation of sweat; the relative amount of these losses vary under different conditions. The following figures obtained by Atwater during his well-known experiments show the values for a man at rest and at work:

	Man at rest. Calories.	Man at work. Calories.
Loss of heat by conduction and radiation	1683	3340
,, ,, urine and fæces	31	26
,, ,, evaporation of moisture from lungs and skin	548	859
Total loss for twenty-four hours	2262	4225

In these experiments Atwater did not make separate determinations of the moisture discharged from the skin and lungs, but Tigerstedt has calculated that the loss of heat by the evaporation of moisture from the skin of a man at rest is 306 calories.

The surface of the skin of an adult man has been estimated at about one and a half square metres, that is, about forty-nine square inches; the thickness of the skin varies from 2·3 to 2·7 mm., but in addition the subcutaneous adipose tissue must be taken into account when the protective function of the skin is considered, for fat is a bad conductor of heat. This layer of subcutaneous adipose tissue is especially well developed in the whale, which is able to maintain the high temperature of a mammal, although it is exposed to the cold of the arctic seas. As a rule men with a large amount of subcutaneous fat feel the heat of summer more and the cold of winter less than the thin men do.

Local changes in the temperature of the skin probably affect the underlying organs both directly by conduction and indirectly through associated vaso-motor changes produced in a reflex manner. The effects of chills and of counter-irritation must be considered from these points of view, for the physiological pathology of these two conditions, which are well established by clinical observation, has not been satisfactorily investigated. In the case of a chill it may be readily granted that the disease which follows the chill is due to the activity of a micro-organism, but this does not explain the whole process or the sequence of events, and it is known that the pathogenic organisms are often present in the bodies of healthy subjects. A chill affects the distribution of blood and heat and the metabolism, and in such manner may diminish the resistance of the body to the micro-organism. When a man is wet through his clothes conduct heat rapidly from his body, for water is a better conductor than air, and it is known from experience that in such a case a man is less liable to contract a chill if he increases his production of heat by active exercise. It must also be remembered that after excessive exertion the skin and clothes are often wet with sweat and the cutaneous blood-vessels are dilated; it is easy to understand that under these conditions the loss of heat from the body may be excessive and injurious if the man is not protected by extra clothing when the work is at an end.

Counter-irritation of the skin is employed for the relief of referred pain and inflammation of underlying organs; the explanation of its effects must be sought, it would appear, in reflex vaso-motor changes associated with the segmental arrangement of the nervous system, about which details will be given later, when the function of the skin as a sensitive surface is considered.

Sufficient evidence has now been given to show the importance of the skin in the regulation of the temperature, and the wide range of accommodation which man possesses in virtue of his naked skin and the great development of his sweat-glands and vaso-motor system.

The next question which demands consideration is that of absorption by the skin. It is by no means a simple problem, and it is not easy to devise conclusive experiments. The absorption of water by the skin of many cold-blooded vertebrates is well known, but in the warm-blooded animals the conditions are quite different. The greasy secretions and excretions of the skin of man retain, as already mentioned, a certain amount of water, but at the same time they protect the horny layer of the epidermis from direct contact with fluids. The active living cells of the skin are still further shielded by the dead epithelium which forms the horny layer. The old experiments in which men were weighed before and after a bath are useless, for it is impossible in such experiments to be certain that all the water has been removed from the surface of the body, and the weighing on an accurate balance is complicated by the fact that during the experiment the man has lost weight by the discharge of moisture and carbon dioxide from the lungs, and this loss is not compensated by the absorption of oxygen.

If the body be immersed in water for a long time the superficial layers of the epidermis become swollen and sodden; this change takes place most rapidly in the case of the skin of the palms of the hands and the soles of the feet, where there are no sebaceous glands.

The skin does not absorb salts or poisons in watery solutions unless the fatty material of the skin has been removed. When the surface is broken by abrasions or inflammation absorption occurs very rapidly, and there are many cases on record of serious effects following the absorption of poisonous solutions applied to the injured skin. When mercurial ointment is rubbed into the skin the globules are forced into the sebaceous follicles and the sweat-glands, for the vehicle is one which mixes readily with the fatty secretions; in the glands the globules of mercury appear to undergo chemical transformation before they are absorbed. The process of absorption by the skin is favoured not only by the mechanical action of rubbing but also by the increased vascularity which results from the friction.

(*To be continued.*)

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, October 20th, 1910, at 11, Chandos Street, Dr. T. COLCOTT FOX, President, in the Chair.

Dr. H. G. ADAMSON showed (1) a case of *Atrophodermia striata et maculata* in a patient with phthisis and *Lichen scrofulosorum.* The patient was a clergyman, aged 38 years. Six years ago he had developed lung tuberculosis. For some years before this he had had an eruption on the trunk which had persisted unchanged until the present time. This the exhibitor diagnosed as Lichen scrofulosorum. On the whole trunk and on the shoulders and buttocks was a very profuse eruption of pin-head-sized, reddish-brown follicular papules, grouped together into areas from the size of a split-pea to that of a shilling. Scattered among the smaller papules were a few dusky-red, split-pea-sized papules, some of which were crusted at their centre. These gave the impression of acne pustules rather than of a papulo-necrotic tuberculide.

In addition to the eruption there were numerous atrophic striæ and macules, which the patient had also noticed for many years. The striæ were in the form of bluish bands of from one to three inches long, and from one eighth to a quarter of an inch in width. Many were in radiating lines from the axillæ, and in the lines of cleavage about the buttocks and groins, but some were without any regular direction. To the touch they gave the sensation of a loss of tissue, and the thinned and wrinkled skin could be pinched up between the tips of the fingers.

Besides these linear striæ there were scattered all over the trunk split-pea-sized to threepenny-piece-sized fine atrophic scars, which could be clearly seen only in certain lights. It was noted that in many instances the atrophic macules correspond with a group of the follicular papules.

The exhibitor said that linear atrophy was known to occur in wasting diseases and in tuberculosis among others, and the opinion had been expressed by Heuss, Thiebierge, Wechselmann, Oppenheim and others, that macular atrophy might perhaps be connected with the toxins of tubercle because most cases recorded had shown signs of tuberculosis. In this case those macules which corresponded with groups of papules of Lichen scrofulosorum certainly occupied areas which had been under the influence of the toxins of tubercle.

Dr. H. G. Adamson showed (2) photographs of a case of *Atrophia maculosa cutis.* The patient was under the care of Dr. Herringham for nephritis, and was too ill to attend. Over the whole trunk, on the neck, on the arms to the elbows, and on the thighs, were very numerous oval, finger-nail-sized, whitish to bluish atrophic macules. The macules were arranged in the direction of the lines of cleavage, so that they radiated from the axillæ, and sloped downwards and forwards at the sides of the chest. They were sharply circumscribed areas of fine, wrinkled, easily pinched-up atrophic skin, which felt soft and silky, and gave the sensation of a hole in the skin. The openings of the follicles were larger and more conspicuous over the macules than in the surrounding skin. The patches showed nowhere any sign of erythema, infiltration, or pigmentation in or around them. Those on the lower part of the abdomen were curiously distended into dome-shaped elevations by the œdema which was present in that part. The patient had nephritis, but there was no history of syphilis nor of tuberculosis.

The case was of interest as a remarkable example of *Atrophia maculosa cutis.* The exhibitor much regretted that the patient had been unable to attend.

Sections made by Mr. McDonagh were exhibited, and these showed (1) a marked cell-infiltration immediately around the blood-vessels; (2) a total loss of elastic tissue in the lesions.

It had been long ago pointed out by Liveing that these atrophic macules were preceded by a stage of redness and "hypertrophy." Jadassohn had first demonstrated that histologically there was evidence of primary inflammatory action, with secondary atrophy, especially of the elastic tissue.

The exhibitor hoped later to publish these two cases more in detail.

Mr. G. W. Dawson showed (1) a case of *syphilitic keloid* in a man aged 47 years, who contracted syphilis seventeen years ago. The arms from the shoulders to the elbows became ulcerated twelve months ago, and two months after the present condition of keloid developed. The syphilitic scarring was very superficial, there being no contraction or difference to the feel of the skin, but there was extensive development of keloid in a characteristically irregular manner, particularly at the margins of the scar and the bends of the elbows, which could not be extended beyond a right angle. It was interesting to observe the rapid effect of mist. biniod. in reducing the keloid, enabling him to extend the arms to a much greater degree within a comparatively short time.

(2) A case of *Lichen annularis* in a man, aged 40 years. The eruption began last May, and when Mr. Dawson saw him in July it was limited to the scrotum. It consisted of numerous small, shiny, angular papules, with here and there the formation of rings the size of a sixpence, the margins of which were very thin. Shortly after first seeing him lesions were noticed in the mouth and a few papules about the ankles. The eruption was very itchy.

(3) A man, aged 49 years, who has a history of syphilis, noticed five years ago small tumours on the face. They were white in colour and the size of large shot and hard to the touch. From the histological appearance they seemed to be small fibrous tumours embedded n the derma.

(4) A peculiar affection of the ankles in a lad, aged 18 years. It began twelve months ago and gave rise to considerable pain on standing. There were a couple of transparent-looking scars about the ankles, surrounded by pigmentation and a suspicion of telangiectasis. The exhibitor thought it resembled a similar case shown some time ago at the same Society.

Dr. GALLOWAY said that he recognised this affection as an example of a rare vascular lesion, a few examples of which had been shown during the last year. One or two cases had been under Dr. Galloway's observation, and he had drawn attention to these in the Clinical Section of the Society in February last,* when Dr. Winter had shown a somewhat similar case. The striking features of the disease were, first, the distribution of the telangiectatic lesion, usually behind the internal or external malleoli, passing in band form up the leg. The skin was easily injured and not infrequently ulcerated, the ulcers produced being very slow to heal and leaving deeply pigmented scars, such as were seen in Dr. Dawson's case. In well-marked cases the persistent pain from which the patient suffered, referred to the injured skin, was a very important feature of the disease.

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* *Proceedings, Clinical Section*, 1910, p. 106..

Dr. **Dore** showed a case of *summer eruption* for Sir Malcolm Morris, who was unable to be present at the meeting. The patient was aged 55 years, and had lived for seventeen years in Cyprus, where he had been much exposed to the sun and where his present complaint developed, apparently as the result of the exposure. His face and hands present the condition known as sailor's skin; it was thickened, pigmented, and scaly, and in some of the patches covered by thick adherent scales, which, when removed, caused bleeding. The parts most severely affected were the nose, temporal regions, ears, and the sides of the neck. On the nose there was a patch of scarred or atrophied skin, which, together with the peculiar nature of the scales, suggested that the case was either closely allied to Lupus erythematosus or was passing into this condition.

Dr. **Pringle** elicited from the patient that the eruption was at its worst during the summer months and died down somewhat in the cold season, but never entirely disappeared.

The **President** said that he did not consider the eruption to be at all an uncommon one.

Dr. **Dore** replied that the patch on the nose was evidently very like light Lupus erythematosus, and it was doubtful if it could be distinguished from that condition.

Mr. **McDonagh** showed three cases illustrating benefit derived from "606."—Case 1.—A female, aged 49 years, acquired syphilis at the age of nineteen, for which she was treated on and off for two years; ten years ago a serpiginous syphilide arose on the left arm, lasted two years, and disappeared ultimately under treatment. No sooner had it disappeared than a similar lesion developed on the other arm, and slowly increased in size till the diameters of the lesion were 5 in. and 3 in. when she received the injection.

At the commencement of July she complained of weakness in the left shoulder and wrist, and her fingers felt numbed.

On admission the patient could not raise her arm above her shoulder, could not lift up anything, and had a feeble grip.

On July 30th an injection of ·45 grm. was given.

Next day there was considerable pain, and the temperature rose to 99·2° F. No albumen.

On August 1st the temperature was 101° F. The same day the patient noticed that she was regaining power in her left arm, and the syphilide was also showing signs of fading.

On August 2nd the temperature returned to normal, and there was a slight trace of albumen in the urine, which lasted only for twenty-four hours.

On August 8th the power in the left arm was almost as good as the right, and the skin lesion was scarcely perceptible; further, the patient said of her own accord that she had not felt so well for years, and that the "heaviness" over the heart and chest had completely gone.

On August 25th Wassermann's reaction was negative.

For this case the exhibitor was indebted to Dr. Abraham and Mr. J. G. Pardoe. Albuminuria after the injection was not common, and when present was only slight and transient.

The exhibitor wished to draw attention to the cardiac distress, "heaviness," præcordial pain, and irregularity in the heart's beat, the disappearance of which the patient called one's first attention to after the injection. So frequent were these symptoms in late acquired syphilis, although infrequently complained of, that the exhibitor suggested their value in diagnosis.

The Wassermann's reaction usually became negative between the third and fourth weeks after the injection.

Case 2.—A girl, aged 15 years, developed the usual signs of congenital syphilis soon after birth, the mother having acquired the disease two years before. Later the child had double interstitial keratitis, which disappeared under treatment, to be followed by cutaneous gummata over the left thigh and leg, which had resisted prolonged oral administration of mercury. The gumma on the thigh was deep, circular, and about 2½ in. in diameter; on the anterior surface of the tibia were multiple sores, the base of some reaching as far as the periosteum and bone; there was a great deal of evil-smelling discharge, and it was almost impossible to keep the ulcers clean.

The patient received ·3 grm., and except for a little pain and a rise of temperature to 100° F., which lasted till the next day, the patient suffered no inconvenience.

On the second day the ulcers already showed signs of healing, and within ten days they had completely healed, no other treatment having been added. The patient also said that she felt very much better. The Wassermann's reaction remained positive, irrespective of the cure "606" had brought about.

The persistence of a positive reaction in congenital syphilis, even although the case had been systematically treated, brought up the point as to whether a positive reaction was always indicative of active syphilis. Before the question could be answered definitely more experience with "606" in the congenital form must be acquired.

The exhibitor was indebted to Mr. R. C. Elmslie for the case.

CASE 3.—A male, aged 28 years, contracted syphilis in August, 1908, and commenced treatment with pills in September, by which time the secondaries had fully developed. The patient continued with his treatment until July of this year, when he was admitted with ulceration of the nose, fissuring of the tongue, elephantiasis and ulceration of the lower lip, and gummatous ulcers on both shins. The patient received ·45 grm., and two days later the nose was no longer red, the ulcers had begun to heal, and on the third day the lip had reached its normal size, and within fourteen days every ulcer had completely healed. The patient had keloids where syphilitic papular pustules had been, and even these showed some improvement after the injection. On September 13th the nose broke down again, so a second injection of ·5 grm. was given, but although the second dose was larger, it did not exert such a marvellous action as the first had done; the ulcer healed after fourteen days, but the redness never quite disappeared, and it looked not unlike breaking down again.

There was no doubt in the exhibitor's mind that an immunity had been produced, which prevented the full action of any subsequent injection; such being the case, it was most important to give a big dose the first time.

The exhibitor had had the same experience with another case, in which an ulcer on the nose refused to heal under a larger second injection.

The exhibitor had had no mishaps, and of 12,000 cases which Ehrlich had to hand, not one had developed optic neuritis.

Captain HARRISON, R.A.M.C., remarked that in view of the local reaction and the consequent pain and tenderness on pressure, it was important to choose a site which would be least likely to be pressed upon. A somewhat extended experience with the injection of anti-typhoid vaccine, which was also succeeded by a local reaction, and led him to suggest the injection of "606" into the subcutaneous tissues overlying the pectoral muscles, and this site had been adopted in the latter cases which had been treated with "Hata" at the Military Hospital, Rochester Row. The result has been that, as the site of the injection had not been pressed upon when the patient was lying in bed, there had been considerably less discomfort when the local reaction occurred than in the cases where the injection had been made into the back. He would like to ask Mr. McDonagh whether he had remarked that in cases where the manifestations of the disease were particularly localised to one region, the injection had been followed in about twenty-four hours by a reaction at the place where the spirochætes had been more particularly active. The question was suggested to him by two cases which he had seen at the Rochester Row Hospital; in the first, a case of gummatous iritis, there had been severe pain in the eye attended by considerable injection of the conjunctiva twenty-four hours after the injection; in the second, a case of cerebral syphilis, the injection had been followed by very severe headache. In both of the cases the pain had gone in a few hours and both had ultimately done very well, and he suggested that possibly the temporary increased severity of the symptoms might indicate an increased activity of the parasites immediately preceding their death.

Dr. J. M. H. MacLeod showed (1) *a case of complete albinism in a girl, aged 6 years, with total absence of pigment in the skin, hair, choroid and iris.* The hair of the scalp was long, soft, and silky, pure white in most places, with here and there a whitish-yellow tinge. The glabrous skin was white or slightly pinkish, and the pupils of the eyes were deep pink, and the iris a lighter greyish-pink from the absence of pigment and the colour of the blood-vessels shining through. There was marked photophobia and nystagmus. The child was otherwise healthy, and did not appear to be backward mentally. There was no history of a similar affection in the family, the father and mother being alive and healthy. The patient was the only child, and at birth had long white hair extending down as far as her eyes.

(2) The case of *maculo-anæsthetic leprosy,* which he demonstrated at the meeting of the Section on July 21st, to show the increased thickening of great auricular and transverse cervical nerves.

Dr. J. H. Sequeira showed (1) a case of *multiple idiopathic pigmentary sarcoma (so-called).* The patient, a Polish Jew, aged 78 years, had lived for the past twenty-five years in the east end of London. He had never suffered from gout and there was no history of syphilis. His general health had always been good, but in 1908 he noticed an eruption of "red spots" about the size of a shilling upon the lower part of the right leg and on the dorsum of the foot. About a year later similar spots appeared on the lower part of the left leg. Seven months ago the spots began to increase in number with great rapidity, and soft swellings formed, which spread all over the dorsum of the right foot and to a less extent on the left.

On inspection the right leg appeared to be distinctly swollen, and in the lower half there was a purplish swelling of the integument upon which were a number of rounded purplish elevations standing upon flattish nodules about the size of a sixpenny-piece. The epidermis between the purplish elevations was thickened and in parts horny. Palpation showed that the limb was slightly œdematous, and that the hemispherical swellings contained fluid, which could be expelled by slight pressure with the finger. The left leg was affected less than the right, the nodules and blebs being more scattered. There was, however, the same condition of œdematous swelling of the limb. The root of each toe-nail was covered with a thick horny crust of a yellowish-brown colour, and the distal extremities of the ungual plates were elevated by brownish masses of hard consistence. The skin of the soles was of a reddish-pink colour, but there were no nodules or blebs upon it. There were also purplish red macules upon the right forearm and wrist, and on the first and second fingers of the right hand, but there were no nodules or blebs.

Fluid removed from the blebs proved to be blood. There were no abnormal cells, and the contents were sterile.

There was no evidence of visceral disease, and the blood presented normal characters.

Microscopical appearances.—A recent nodule was excised and submitted to Dr. Turnbull for examination. Under a low power a portion of the dermis appeared to be abnormally cellular. The papillæ were not well marked, or were absent in this area. There was some horn upon the surface of the epidermis, and the horny layers were split in places by groups of red corpuscles or the granular *débris* apparently derived therefrom. This infiltration with blood was not confined to the cellular area, and was not more marked in that part. There was some brown-yellow pigment in the basal layer of the Malpighii, and this pigment was more abundant over the cellular area. Only two or three pigment-cells were found in the papillary zone of the dermis. There was no visible destruction of the collagen fibres. Below the papillary zone, however, the fibres were separated by small cellular groups. These groups lay in the main parallel to the surface. Many of the cells were cuboidal or triangular, and others were spindle-shaped, with long processes. With Unna-Pappenheim's stain very few plasma-cells were noticed among the other cellular elements, but at the border of the infiltrated area there were several perivascular groups of plasma-cells. There was also much plasma-cell infiltration around a sweat-duct at the margin of the nodule. The infiltration itself was evidently perivascular. There were many, often engorged, capillaries in the cellular area, but no obvious new formation of capillaries. There was no obvious destruction of elastic tissue. Throughout the cellular area and the deeper layers of the dermis there was much intra- and extra-cellular pigment in the form of small granules.

Dr. Turnbull concluded that the process was inflammatory and not sarcomatous. In this he agreed with the opinion of Dr. Bulloch on a similar case shown by the exhibitor in 1901 (*Brit. Journ. Derm.*, xiii, p. 201). In commenting upon the case Dr. Sequeira remarked upon the peculiar bleb formation, and referred to the after-history of the case under the care of Dr. Pringle and Sir Stephen Mackenzie. This patient had one leg amputated, but the disease ultimately cleared up with atrophy. The patient lived for quite twenty-five years after he was first shown in this country, his death taking place last year in the London Hospital from cardiac failure following bronchitis and emphysema.

Dr. PRINGLE observed that Sir Jonathan Hutchinson had laid much stress upon the occurrence of gout in association with this condition, and said it would be interesting to know whether there were any gouty elements in the present case. He also asked as to whether the patient developed the disease in this county. In the case of his own to which Dr. Sequeira had alluded in his notes the specially interesting point was that idiopathic atrophy occurred and all signs of the so-called "sarcoma" disappeared many years before the patient died, leaving the affected parts completely useless from muscular atrophy.

Dr. SEQUEIRA replied that there were no elements of gout in this case, but in a case of a similar nature that he brought before the Dermatological Society in 1901 the patient had many attacks of gout, and the same observation applied to the patient with this condition whom he showed before the Section last year. These patients developed the condition in this country.

(2) Case of *inherited syphilis treated by Ehrlich-Hata's* "606." The patient, a boy, aged 15 years, had five brothers and one sister in good health. His mother and father were alive and well. There was no history of miscarriages. He is stated to have suffered from typhoid

fever at the age of two years, and since that time had been troubled with his eyes. The right eye became gradually useless. He also suffered from deafness. During the past two years the condition of the eyes and ears had been getting worse. Six years ago a "row of pimples" appeared on the upper lip and gradually spread until the greater part of the left cheek, the nose, and a portion of the adjacent part of the right cheek were involved. The "pimples" ulcerated, and when he was admitted to the ward there was a very large mass of dirty crust covering the left cheek, nose, and upper lip. The mucous membrane of the lip was everted and ulcerated. On the removal of the crusts by fomentations a large ulcerated area was exposed. Its margin was raised and nodular. He was examined in the Ophthalmic Department, and was found to have interstitial keratitis and retino-choroiditis of both eyes and phlyctenular ulceration of the left. Mr. Hunter Tod reported that there was chronic middle-ear suppuration with granulations, and that the internal ears were also affected. The Wassermann reaction was strongly positive.

On October 10th ·1 grm. Ehrlich-Hata's "606" was injected into the right buttock, and on the 12th ·2 grm. was injected into the right infra-scapular region. There was some slight pain, but the lad slept well without any hypnotic.

In four days the ulceration had almost entirely disappeared, and when the lad was shown at the meeting on the 19th the surfaces were quite clean and healed.

An interesting point was that the patient volunteered the statement that he was able to see better than he had done, but careful examination with the test-types did not demonstrate any definite improvement.

Dr. Sequeira referred to other cases which he had under observation. In one of them injected in July, a case of extra-genital chancre, there had been a negative Wassermann reaction for over two months. He also mentioned two infants suffering from inherited syphilis with extensive eruptions, one being treated directly by injection and the other through the mother, who had received ·6 grm. of "606." In both infants rapid improvement was noticed. The case suckled by the mother who had been injected had since appeared to progress more rapidly than that treated directly. It should, however, be noted that the latter only had ·02 grm. injected.

The full details of the cases treated at the London Hospital will be published later by Dr. Bulloch and Drs. Fildes and McIntosh, who had been carrying out the treatment with "606," kindly supplied by Prof. Ehrlich.

Dr. Whitfield showed a case of *atrophic Lichen planus with cornu cutaneum.* The patient was a woman, aged 63 years, who gave a history that twenty-four years ago she had had an eruption break out over the limbs and trunk. The eruption had disappeared over the upper limbs and trunk, but had persisted on the legs. Three years ago she had fallen down and cut the left knee, and since then a horn had developed. This she had removed by poulticing on one occasion, but it had grown again. A few days before coming to the hospital she had knocked it and had broken off a piece about three quarters of an inch long, and this piece she had brought with her to the hospital.

The condition on exhibition was as follows: On the left knee over the patellar tendon and the patella itself there was a fine, papery scar, and in the centre of this was a bifid horn. The larger half was over an inch long and turned sharply downwards after growing out of the skin, so that it lay for its whole length along the skin, and might to a casual observation be mistaken for a long crust. Closer examination showed, however, that it was really a long horn about half an inch in transverse section, and a piece of paper could be easily slipped up between the lower end of the horn and the skin. The smaller half had been broken off short and projected about a quarter of an inch. The inner edge of scar was bounded by a purplish border about an eighth of an inch wide, and this was hard and obviously infiltrated, so that the eruption strongly resembled a late syphilide, as which, indeed, it had already been diagnosed.

Beyond the inner edge of the scar there were a few infiltrated papules or nodules, also strongly suggestive of syphilis. Higher up the limb, on the outer side above the knee, there were several large patches of hypertrophic Lichen planus. The outer side of the leg above the malleolus was the seat of an indeterminate septic and infiltrated eruption.

On the right leg below the knee the whole of the anterior and outer surfaces were occupied by a sheet of the most exquisite atrophying lichen. The skin here was converted into a network, of which the "strings" were formed by bluish-red lines of Lichen planus, while the "holes" of the net were composed of fine, pearly atrophy.

There was no eruption on any other part of the skin or on the oral mucous membrane. For the sake of completeness a Wassermann's reaction had been carried out by Dr. Emery, and had given, of course, a negative result.

Dr. **Kenneth Wills** (Bristol) suggested that as the X-rays had a beneficial action upon some cases of the Lichen group, and that the same had been observed with cutaneous horns, it would not be illogical to hope that this agency might succeed in relieving this affection without recourse to surgical measures.

In answer to Dr. Wills, Dr. **Whitfield** said that he had intended to remove the horn by excision, but would adopt Dr. Wills's suggestion and try the effect of exposure to the X-rays.

Dr. A. **Winkelried Williams** showed (1) a case of *gonorrhœal keratosis of hands and feet.* The patient, a man, aged 21 years, previously suffered from Hyperidrosis pedis in summer-time, and last year with considerable keratosis of the soles, which peeled off in the winter.

He contracted gonorrhœa nearly two months before the present eruption was noticed. The urethritis was followed a month later by gonorrhœal arthritis of the knee and ankle. The eruption came first on the feet, and a few days later the hands were affected. It consisted of diffuse plate-like keratosis of the soles, with the addition of numerous circular dome-like elevations of yellow, translucent, intensely hard, horny masses and also a number of cones of similar transparent yellow horny matter. These practically covered the front and sides of the toes and the sides of the feet. They looked at first sight like bullæ beginning to dry up. They could be peeled off with comparative ease, leaving a red, moist surface. The under-surface of the peeled mass was lined with a greyish-white, somewhat slimy, putty-like material. Tubes of agar, nasgar, and serum inoculated with the slimy material remained sterile after a week's incubation. Films of the material showed no organisms, gonococci or other.

The eruption on the hands was less extensive than on the toes, and consisted of a few transparent yellow cones and a single transparent horny dome.

(2) A case of *scleroderma with obstinate callous ulcers on the legs, greatly improving under mercurial inunction.* The patient was formerly

a professional athlete, but had not been exposed to cold in running shorts for fifteen years. There was no history or evidence of syphilis, nor of erysipelas, or any other illness. The onset of the disease was attended with severe pain in spasms, sometimes lasting for hours in the joints and muscles. The skin-affection began with induration without œdema. On the lower extremities it involved the feet and legs and the lower half of the thighs, and was sharply limited above by a telangiectasic area. On the upper extremities it extended from the finger-tips half-way up the upper arm, and the upper limit was similarly defined.

The patient attended the Skin-Department of the Sussex County Hospital in November, 1909. As he had previously undergone practically all the generally recognised treatments excepting electrolysis and mercurial inunction (Chirone's method) without relief, he was put on mild mercurial inunctions. He had to return to London in a month, and was apparently slightly better. On July 16th, 1910, he managed to return to Brighton in order to continue the treatment, which he felt had considerably relieved him, and was able to remain until October 4th, when he had to return to London. During this time he had mild mercurial inunctions, not pressed to produce any stomatitis, and he had vastly improved. Unfortunately it was not possible in Brighton to get a Wassermann test done when he first came. Whether the remarkable improvement was the direct result of the mercurial treatment was uncertain, but it was certainly coincident with it, and in view of the recent American investigation of the Wassermann reaction in scleroderma, was decidedly significant.

(3) A case of *epithelioma, involving the whole of the lower lip and the entire skin of the chin, showing a close clinical resemblance to actinomycosis.* The patient, a cowkeeper, stated that two years ago a small spot appeared on the lower lip. It got gradually larger, but he had never had any pain, but much pruritus. He had not lost weight, and was in good general health. The entire skin of the chin was much swollen, and of a purplish-blue colour; it was not indurated, but thrown into corrugations, with many sinuses exuding a highly fœtid sanious pus. Probes could be easily passed from sinus to sinus along the corrugations. There was some ulceration of the lip, but no thickening of the jaw-bone, and four weeks ago, when he was

first seen, there was practically no enlargement of the cervical or submaxillary glands.

The surgical opinion expressed a month ago was that the disease was malignant and inoperable. He was consequently first put upon large doses of iodide of potassium, beginning with 30 gr. daily, increased in a week to 90 gr. daily, and the pus and scrapings from the sinuses were repeatedly examined by Drs. Galt and Williams for the ray-fungus, but none was found. A biopsy was then made, and the diagnosis of typical epithelioma was made. The patient was now under X-ray treatment. The case was shown on account of the curious resemblance to actinomycosis.

CURRENT LITERATURE.

A CONTRIBUTION TO OUR KNOWLEDGE OF SPOROTRICHOSIS, WITH SPECIAL REFERENCE TO LYMPHANGITIS SPOROTRICHOTICA; ALSO ON EXPERIMENTAL SPOROTRICHOSIS.

G. Arndt. (*Derm. Zeitschr.*, 1910. H. 1 and H. 3.)

In this paper Dr. Arndt publishes the first case of sporotrichosis which has been detected in Germany. All the previous cases have been discovered in either America, France, Brazil, or Switzerland. The paper is complete from every aspect, comprising as it does a *resumé* of the literature of the subject, a full clinical and histological account of the author's case, with descriptions of the cultures made from it, and finally, an essay upon sporotrichosis experimentally produced in animals. A full bibliography is appended. The patient of the author was a male, aged 29 years, of uneventful medical antecedents. On the outer aspect of his right forearm was an ulcer in size somewhat exceeding that of a five-mark piece, of irregularly rounded contour, somewhat infiltrated with walls of bluish-red colour, undermined in places. It exuded a thin and sanious discharge. In the neighbourhood of the ulcer were two small fistulæ. From the ulcer ran two tracks of lymphangitis, which, following a rather tortuous course, ultimately arrived at the axilla. In places they showed knotted thickenings. They were not attached to the deeper structures, but one of the axillary glands was found to be enlarged. Obviously the diagnosis presented considerable difficulty. An extra-genital chancre or an extra-genital ulcus molle were excluded both by clinical and microscopical observations, for careful search failed to disclose the presence of either the spirochæte or the bacillus of Ducrey. Chronic glanders was also considered and rejected, and here it may be mentioned that other observers have found that the lesions of sporotrichosis of the skin may bear a very strong resemblance to those of glanders. Finally, the possibilities of a yeast infection or of a tertiary syphilide or of an ulcerative tuberculous process were excluded on good grounds, and the diagnosis of spirotrichosis, which might almost be said to have been arrived at by a process of elimination, was substantiated by the successful growth of the characteristic fungus on Sabouraud's medium in pure culture.

Histological examination of excised portions of the lesions showed that the cellular infiltration, which was strongly marked, contained large numbers of plasma-cells. In some ways the arrangement of the cells resembled that of a "tubercle," and around the little tubercle-like nodules the connective tissue was concentrically arranged. Giant-cells were found, but not very large ones; for the most part they did not contain more than ten nuclei, peripherally situated.

There also occurred among the infiltrating cells curious strongly refracting masses, products of cell-degeneration resembling Russell's bodies. The original connective and elastic tissue of the region had almost entirely disappeared. Blood-vessels were numerous and well developed, and the lymph-channels markedly widened. Although more than two hundred sections were examined, no trace of mycelium or of spores was discovered. Under treatment with iodide of potassium speedy healing with only slight residual scarring took place.

From a description of the case the author proceeds to a discussion of the diagnosis of the different forms of sporotrichosis and the descriptions appropriate to them. He considers that the best classification is into "regionally limited" and "disseminated" forms. It is difficult to give any general description of the primary lesion of the disease, because it varies so much in different instances. Sometimes it seems to resemble a tuberculous lesion, somtimes a kerion, and sometimes one of the curious appearances associated with the use of iodides or bromides. Or again, it is like a blastomycosis, and, finally, it has to be distinguished from the effects of one of the pathogenic yeasts. It is extremely important to make a correct diagnosis, because sporotrichosis is very amenable to treatment with iodides, and a case which, if of tuberculous origin, would be almost hopeless, can be speedily healed if it is one of sporotrichosis. The results, however, of histological examination are not, in the absence of cultural evidence, sufficiently definite to enable a diagnosis to be made. From an ordinary mass of granulation-tissue sporotrichosis may be distinguished by the presence in fair numbers of giant-cells and of epithelioid cells, while from a tuberculous lesion it is differentiated by the fact that there is scarcely any central necrosis, nor are the epithelioid cells nearly so numerous as they are in a tuberculous granuloma. The absence of necrosis also distinguishes it from a gumma, which, indeed, in other ways the lesion of sporotrichosis strongly resembles. There are also points of histological resemblance between sporotrichosis and blastomycosis and certain forms of deep-seated ringworm (Sycosis parasitaria). In short, the only satisfactory method of making the diagnosis is by obtaining a culture. For this purpose Sabouraud's medium is by far the best. When the result of the culture is negative, the only other method worthy of consideration is the test of the power of the patient's serum to agglutinate the spores of the fungus.

As regards the pathogenesis of the condition, in the case of the localised forms it is extremely simple. The fungus simply enters the organism through the medium of a wound. Dissemination takes place either by means of the lymph-channels or by the blood, but cases which show any trace of lymphangitis are far less common than those in which multiple nodules are found of hæmatogenous origin. It has several times been found that there is a Phlebitis sporotrichotica analogous to the Phlebitis syphilitica, the existence of which in the secondary stages of syphilis has been adequately shown. But it is those instances where there are multiple disseminated nodules without any obvious primary lesion which are difficult to explain. In these cases it appears probable that infection takes place either by the alimentary or the respiratory tract. The alimentary tract may easily be attacked because it has been proved that the sporotrichosis exists as a saprophyte upon various forms of fruit and upon cress and lettuces, and the spores are so small that they could easily be inhaled into the lungs in ordinary respiration.

Finally, Arndt has been able to produce sporotrichosis in animals by inoculating them with human material. He at first attempted to produce it in guinea-pigs, but was unsuccessful, although he tried both by the subcutaneous and intra-peritoneal methods. In rats he was unsuccessful in inoculating them subcutaneously, but was able to produce generalised sporotrichosis by intra-peritoneal inoculation. In apes, however, he was able to obtain positive results by subcutaneous inoculation, and further, was able to observe the extension of the disease along the lymphatics.

H. D.

A PREVIOUSLY UNDESCRIBED VARIETY OF HUMAN HAIR—BAYONET HAIRS. F. PINKUS. (*Derm. Zeitschr.*, April, 1910, p. 253, Bd. xvii.)

THIS variety of hair has never previously been described, a fact which is the more remarkable because it occurs upon the heads of nearly all men. Pinkus had noticed it as much as twelve years ago, and the figure which illustrates the present article was drawn for him in 1903. He has especially noticed these hairs in heads which are beginning to grow bald on the occipital region. Occasionally they are found among the hairs of the body, and in these instances the skin is somewhat ichthyotic. The peculiarity of these hairs is that near the tip of the hair there is a spindle-shaped swelling, which gradually thins off into a long neck, which then becomes continuous with the normal hair. Occasionally two spindles follow one another before the normal hair is reached. The thin end of the hair is often bent round, or has a double joint in it which makes it resemble a bayonet set on the end of a weapon. The spindle is strongly pigmented, and under the microscope the pigment is seen to be arranged in squares or facets. Often the accumulation of the pigment pushes the fibres of the hair out of their regular position. In the centre of the hair there may be either marrow-cells or there may be a mere space. About 100 to 200 is the normal number of bayonet hairs on a head. They reach their highest percentages where the hair is beginning to get thin. Pinkus ascribes the peculiar form of the hair, particularly the point, which may be either coiled into a spiral or wound into a ball, to the fact that the hair has taken more than a normal time in forcing its way to the surface, and is subject to pressure from behind.

H. D.

ON THE TREATMENT OF SYPHILIS WITH ARSACETIN. JENSSEN. (*Derm. Zeitschr.*, 1910, H. 4, p. 231.)

THE author gives a list of eighty-four cases of syphilis, all in the early stages, treated with arsacetin. His tables show the state they were in at the beginning of the treatment, whether they gave a positive Wassermann reaction or not, the amount of the drug administered to them, and their reaction to the Wassermann test at the conclusion of the treatment. His conclusions on the whole are unfavourable to the drug. It is true that it does have a distinct influence over the signs and symptoms of syphilis ; it is particularly effective in severe affections of the skin and nails, and speedily causes a diminution in the size of swollen glands. Often it transforms a positive Wassermann reaction into a negative, although in some cases where at the beginning of the treatment the reaction was negative, at the end it was positive, and in others after a positive reaction had for a short time given place to a negative, it subsequently became positive again. On the other hand, only in isolated cases of primary syphilis did it cause a complete cure; although the secondary symptoms disappeared quickly yet relapses occurred sooner than after the use of mercury. In the case of tertiary affections it had no lasting effect. Worst of all, the toxic effects were often serious, causing gastric symptoms of more or less severity, including loss of appetite, pain, diarrhœa, and rise of temperature. Sometimes these untoward manifestations appeared after the first, sometimes after subsequent injections, and in several cases led to the abrupt cessation of the treatment. Most serious of all, in one case nerve-deafness, which was to be ascribed to the arsacetin, set in, and in three there was grave injury to the eyesight, which resulted in complete blindness in one case and the limitation of the field of vision to a tiny central area in the others. Furthermore, the optic atrophy produced is of a progressive nature, and does not cease to spread when the use of arsacetin is discontinued ; on the contrary, it may increase during many weeks in which no arsacetin has been administered. The author concludes that arsacetin is not to be recommended as a treatment for syphilis, although he still thinks that it may be worth while to try it, with many precautions, in a few cases where other measures have failed. On the whole, he regards mercurial treatment as far superior.

H. D.

THE DIAGNOSIS OF SYPHILIS BY THE METHOD OF COMPLEMENT FIXATION : A REVIEW OF THE VALUE OF THE WASSERMANN REACTION, WITH A CONSIDERATION OF SOME OF THE MODIFICATIONS. GURD. (*New Orleans Med. and Surg. Journ.*, August, 1910, p. 98.)

In the author's experience practically identical results are obtained, no matter what so-called modification is used. When possible he prefers the latter method of Tschernogubow with the active fresh serum ; when this is impossible, owing to difficulty in procuring material and in children, he has used practically Noguchi's method, except that the serum is first inactivated.

During the past four months he has performed the reaction in the Touro Infirmary 140 times upon 116 patients, making use of the Noguchi method in 37 and the Tschernogubow modification in 103 cases. The results obtained by both methods have been uniform and agree with those reported by other observers. The following brief summary gives an idea of the value of the reaction :

Total reactions	140
Positive	64
Negative	76

composed of cases which may be grouped as follows :

	Positive.	Negative.
Primary syphilis	1 (6 weeks)	4
Secondary syphilis	13	2
Tertiary syphilis, active	19	8
Syphilitic history, inactive	15	—
Parasyphilitic (general paresis and aneurysm)	6	—
Congenital	10	1
Cases for diagnosis (probable luetics)	(17)	—
Cases for diagnosis ?	(7)	20
Cases for diagnosis (not luetics)	—	23
Control negative cases	—	18
	64	76

It is thus seen that with the two exceptions mentioned, in so far as we can judge, all syphilitics not under treatment, as well as those under mild administrations of mercury, have given positive results, whereas no negative case has given the reaction. It is, naturally, impossible to be absolutely certain that the cases handled fall into one or other category with reference to infection. The above clinical diagnoses have, however, been made in conjunction with the clinical observers of the results of treatment; nature of lesion, history, etc., having all been taken into account. Briefly, as mentioned above, the serum from all cases of active syphilis, after the first month, gives the reaction, whereas, on the other hand, only a certain number of diseases which are now well established have the power to bind complement, and then only with certain antigens.

The time necessary for the complete disappearance of the reaction varies with the amount of mercury given and the method by which it is admistered.

Conclusions.—(1) The reaction at the commencement of the disease is absent but gradually increases in strength, reaching its maximum in the later stages of the secondary lesion. Treatment affects the reaction, apparently, in direct relationship to the improvement in the disease clinically.

(2) Continued observation will probably show that the disappearance of the reaction and continued absence for a period of nine to twelve months will be evidence of the cure of the disease.

(3) Colles's law has been disproved, the mothers of syphilitic children being shown, by means of the reaction, to be themselves syphilitic.

J. L. B.

REVIEWS.

Essentials of Diseases of the Skin.*

This volume is one of a series of small text-books arranged for medical students in the form of questions and answers, which seem to have a large sale in the United States and Canada. A note in the beginning of this volume states that, already in 1909, over 290,000 copies of these publications had been sold, and Stelwagon's book has reached the seventh edition, so there can be no question of its popularity. The various skin-affections are dealt with very shortly, even the rarer diseases, such as ainhum and mycetoma, being included, and the subject of treatment is necessarily very curtailed. Under the headings of Lupus vulgaris, moles, and angiomata the question of radium treatment is neither discussed nor mentioned, while under Acne vulgaris rather an excessively long list of prescriptions for external applications is given in detail. The plates dealing with the anatomy of the skin are very diagrammatic. Tables dealing with the relative frequency of skin-diseases, as shown by statistics, public and private, of the American Dermatological Association, covering a period of ten years, are rather interesting. According to these tables, eczema represents 30·4 per cent. of all cases met with; Syphilis cutanea comes next with 11·2 per cent., and acne next with 7·3 per cent. In a total of 123,746 cases only 172 cases of Molluscum contagiosum were met with, representing 0·139 per cent., as against 252 cases of anthrax, equivalent to 0·203 per cent.; only two cases of Verruca necrogenica occurred among this enormous number of skin-affections, and one case each of myoma and Mycosis fungoides. It would be of value to dermatologists to know how these statistics have been arrived at, and the method adopted for reporting the cases.

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* *Essentials of Diseases of the Skin, including the Syphilodermata, arranged in the form of Questions and Answers, prepared especially for Students of Medicine.* By H. W. Stelwagon. Philadelphia and London: Saunders Co., 1909. Seventh edition. Price 1 dollar.

Medical students, and perhaps practitioners, will find the volume useful.

J. L. B.

DISEASES OF THE SKIN.*

THIS well-known text-book appears in a somewhat amplified form in this, its eighth edition. We miss on the cover the name of Dr. Frank Hugh Montgomery, who collaborated with the author in the preparation of the three preceding editions, and note that the author has been assisted in the present one by Dr. O. S. Ormsby. The book has been increased by 250 pages. Special chapters have been added on diseases of warm countries and the tropics, on diseases of the mucous surfaces, and on affections of the nails. The completeness with which the subject has been dealt with is evident by the inclusion of such matter as the fourth disease, paraffin prosthesis, and brown-tail moth dermatitis.

This text-book is already so familiar to students of dermatology that it is unnecessary to refer further to its characteristics save to state that in this new and enlarged edition it has lost none of its merits, its value being definitely enhanced, and it still remains one of the most complete and well-arranged works on the subject in the English language.

* *Diseases of the Skin.* By JAMES NEVINS HYDE. Baillière, Tindall & Cox, London, 1910. Eighth edition. Price 25*s.* net.

THE BRITISH
JOURNAL OF DERMATOLOGY.

DECEMBER, 1910.

A CASE OF GONORRHŒAL KERATOSIS.

By A. WINKELRIED WILLIAMS, M.B.,
Dermatologist, Sussex County Hospital, etc.

This disease only occurs in cases in which there is other evidence of gonococcal septicæmia or pyæmia, *e.g.* gonorrhœal arthritis or tendo-vaginitis.

Gonorrhœal keratosis is described as of two types, both of which are shown in this case: (1) Diffuse thickening of the horny layer of the sole of foot. (2) Development of transparent, yellow, horny cones and domes; these are mostly on the hands and feet, but may develop elsewhere. The latter begin as small red plaques or telangiectasic spots, which rapidly grow into horny cones or domes, rising from a thickened keratosic base with or without a reddish areola. These may join together, forming horny plates or ridges, from the surface of which the horny transparent cones stand out separately. The domes are generally on the plantar surface of the foot. After about one or two months' duration the base of the horny mass cracks, so that a pair of forceps can easily be inserted and the mass pulled off, leaving a succulent, red, non-bleeding area. The under-surface of the peeled mass is lined by a greyish-white, slimy or putty-like material, which can easily be scraped off the hard horny matter. Investigation of this slimy matter has failed to discover any organisms, gonococci or others. If left alone spontaneous desquamation of the masses occurs, accompanied by a simultaneous desquamation of the diffuse keratosis of the soles.

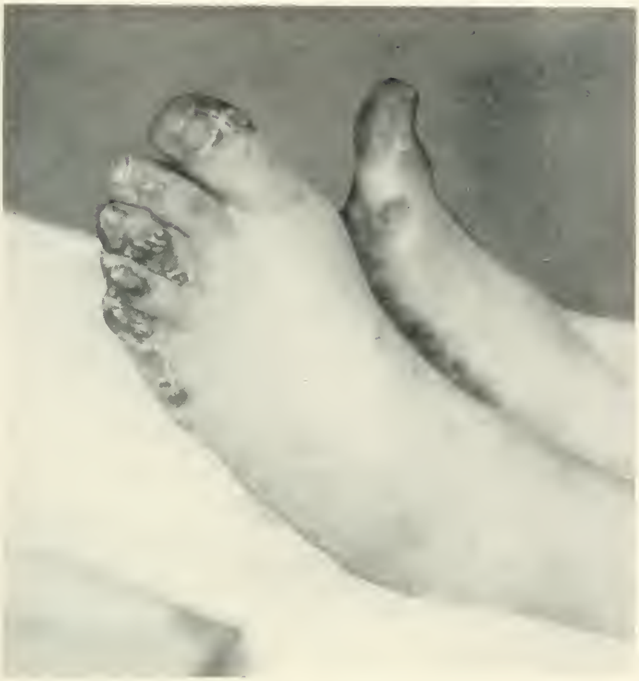
Histology (Turnbull and Sequeira) of early nodule shows: (1) Superficial part of the thickened, horny epidermis exists without nuclei to the cells in most areas; (2) lower part of horny layer with nucleated cells; (3) stratum granulosum is only recognisable in places, and considerable masses of neutrophile polymorphonuclear leucocytes occupy rounded spaces; (4) Malpighian layer cells with clear prickle borders and variable numbers of neutrophile leucocytes, and interpapillary processes much lengthened; (5) papillæ are œdematous, and, together with upper part of derma, much infiltrated with mono- and binuclear plasma-cells, and a few neutrophile polymorphonuclear leucocytes with very scarce eosinophiles; (6) deeper parts of derma show no œdema and only a very little cellular infiltration, which is localised round the vessels.

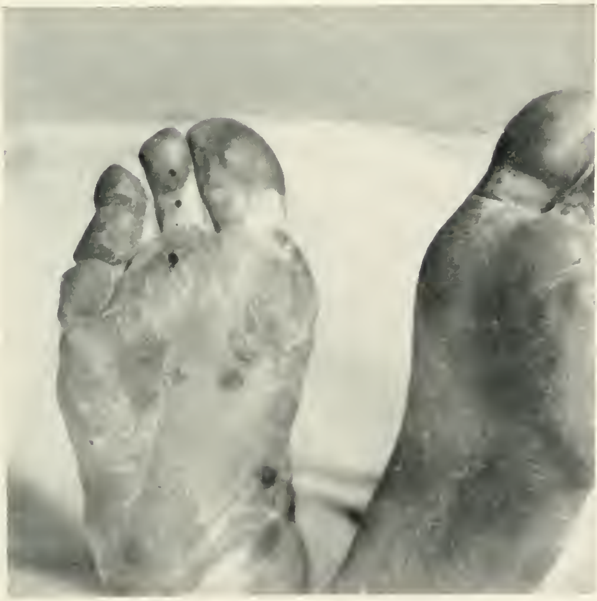
The condition is not often recorded, but it is probably more common than the recorded cases would indicate; the comparatively trivial discomfort of the condition, its spontaneous recovery, and the fact that in this country gonorrhœal cases do not usually come into the hands of dermatologists would account for this overlooking of an interesting condition. So far as I have been able to discover there has only been one case previously recorded in this country, *i. e.* the case shown by Sequeira at the Dermatological Section of the Royal Society of Medicine last session.

More cases are recorded in continental literature—sixteen in all—probably on account of the fact that foreign dermatologists often include gonorrhœa in their speciality. The recorded cases I have been able to refer are absolutely identical in their clinical description to the case I am about to describe.

The patient, T. W—, stableman, was an in-patient at the Sussex County Hospital for gonorrhœal arthritis, under Dr. Hobhouse. Dr. Hobhouse was away for a holiday when the eruption developed, and no description was made of the early stages. On Dr. Hobhouse's return he noted the unusual type of the eruption, and asked me to see him in the first week of last August.

History.—Patient has for several years suffered from Hyperidrosis pedis in the summer months; this last year was more marked than usual, and was accompanied by a general hardness of soles of feet, which cracked and peeled off during the winter and the soles got quite smooth and soft. He also, a few years ago, had some wart-like lumps on the fingers on the site of the present eruption; the patient did not pay heed to them as they seemed to be ordinary warts. [*N.B.*—





TO ILLUSTRATE DR. A. WINKELRIED WILLIAMS' ARTICLE ON GONORRHŒAL KERATOSIS.

Patient called present eruption warts.] He had not gonorrhœa at that time, but had "put his left knee-joint out" in a cycle accident, and had much swelling of the joint which disappeared in a week, since when he has had no trouble with it. The joint, however, has always been rather larger.

About two months before the present eruption he contracted gonorrhœa for the first time; this was followed one month later by typical gonorrhœal arthritis of left knee, and five weeks later by pain in left ankle, which felt very hot, but was not swollen.

Four days after the ankle affection (*i. e.* July 11th, 1910), hard, corn-like areas developed on the left foot, followed in a few days by a similar eruption on the right foot and one week later on the hands.

Condition on August 1st, 1910.

At first sight the toes appear studded with transparent yellow bullæ beginning to dry up. Closer inspection showed them to be topped by pointed conical masses, which were quite translucent, and of a gamboge yellow colour. Palpation showed them to be of stony hardness. The localisation was as follows:

Left foot.—Dorsum of little, fourth and third toe covered with confluent hard mass studded with transparent conical tips. Dorsum of large and second toe with ordinary corn-like masses. Sole: hard thickened epidermis covers the area of pressure, from which rise circular, dome-like elevations of translucent, hard, horny masses. Outer and inner border of foot: rows of circular, dome-like elevations of translucent, hard, horny masses, with slightly reddened areola round some of them.

Right foot.—General hard thickening of epidermis exists along pressure areas. A series of broad-based separate cones of clear yellow horny material with a slight pink areola extends along inner border of foot; on the side of ball of big toe they form a confluent Y-shaped mass, but from this mass the individual conical points stand out separately. Along outer border of dorsum is a row of broad-based, isolated, rounded masses, most of them dome-shaped, but tending to become conical near toes; they are very hard, and the upper part is transparent and yellow. Yellow transparent cones extend along outer edge of fourth toe. Balls of all toes covered with masses resembling very hard ordinary corns, which show in one or two places ill-developed cones.

Left hand.—One dome-shaped mass on inner edge of hand. A transparent yellow cone on palm. A red, moist area just outside outer and lower corner of nail fold of index finger, from which a hard cone had recently peeled.

Right hand.—Small mass capped by two transparent, yellow, horny cones on inner side of little finger.

After careful cleansing with antiseptics forceps were inserted under the edge of confluent mass on the little toe of left foot and the whole pulled off. The under-surface was coated with a greyish putty-like material, some of which was removed with a sterile platinum spud, and tubes of agar agar, and serum inoculated. Smears were also made on object-glasses and sent to the laboratory.

Dr. Galt reported on August 4th, 1910: "No gonococci or other organisms are present in the films, and the cultures are likewise sterile."

I left for my holidays on August 4th, and heard that the hard masses peeled off, leaving reddish areas, and that the patient subsequently left the hospital with his arthritis much improved.

Literary Notes.

Le Damany (*La Presse Méd.*, No. 50, 1897, p. 282); (*Brit. Journ. Derm.*, vol. x, p. 35).—Six cases of gonorrhœal septicæmia (arthritis, iritis, etc.). Eruption of horns and conical projections, or large irregular indurated patches made up of hornified epidermis; generally on hands and feet, occasionally, but rarely, erupting on other parts. Some cases recurred with fresh attacks of gonorrhœa.

Victor Roth (*Münch. med. Wochenschr.*, May 30th, 1905); (*Brit. Journ. Derm.*, vol. xviii, p. 156).—A case recorded. Gonorrhœa with inflammation of tendon sheaths of right foot. Nodules of yellow translucent horny matter, looking like vesicles, on feet, rapidly evolved on a red base. When pulled off, a red succulent area which did not bleed was found underneath. The under-surface of the removed horny mass was lined with a slimy, greyish-white matter composed of softened horny cells. A similar nodule was found on outer aspect of left leg just above the malleolus. No gonococci found in cones.

Noel Fiessinger (*Journ. des prat.*, September 25th, 1909); (*Brit. Med. Journ.*, "Epit."). A paper describing the condition. Total number of cases recorded is sixteen, and they all occurred in cases of severe general gonorrhœal infections. He considers maceration of skin by retained sweat to be the cause of the eruption.

J. H. Sequeira (*Brit. Journ. Derm.*, vol. xxii, 1910, p. 139).—A case of gonor-

rhœal arthritis of both knees, right elbow, right sterno-clavicular joints. Histological examination of early nodule by Dr. Turnbull, and notes on cases published by Jacquet and Chauffard.

A. CHAUFFARD (*Ikonographia Dermatologica*, Fasc. 5, 1910).—Description of case with clinical coloured plate. Review of previously recorded cases. Review of histological investigations. Considerations as to ætiology. Bibliography.

EPIDERMOLYSIS BULLOSA.

BY S. W. ALLWORTHY, M.A., M.D., D.P.H.,
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SINCE the summary of recorded cases of Epidermolysis bullosa by Dr. Wallace Beatty was published in the *British Journal of Dermatology* for August, 1897, many additional cases of this peculiarly interesting malady have been reported, yet its ætiology remains obscure. The following are clinical notes of a case at present under my care, in which the condition clearly developed *in utero* without any evidence of heredity.

The patient, William J. B—, is a lively, healthy-looking boy, anxious to join in games of all sorts. His mother states that "he was born with a large blister on his right foot and ankle, which the nurse at the time punctured with a needle, and that he has seldom been free from blisters or bullæ on his legs since. New ones appear every two or three weeks, apparently independent of injury, and when not broken some attain to the size of an apple or an orange. When the baby was three weeks old all the nails of his toes were shed." The mother, in her own mind, attributed some defects in the nails of his hands and toes to a fright she had when about six months pregnant. It seems that a window almost fell on the hands of one of her other children.

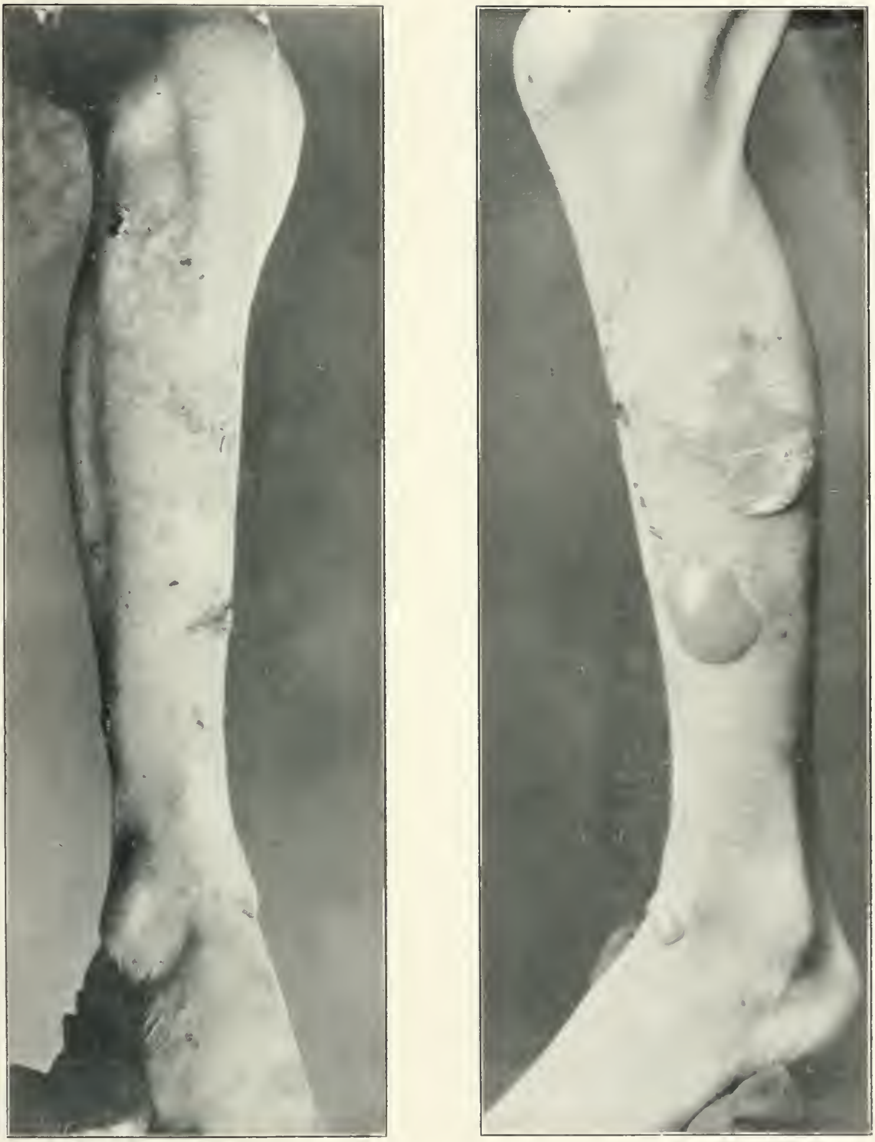
His skin, except where the lesions have been, is of fine texture and otherwise normal. Some small blisters have developed on the bridge of his nose from time to time, but the scars are almost imperceptible. The skin upon his elbows shows signs of having had numerous bullæ. It is of a bluish-red colour, and resembles crushed silk-paper in appearance. The principal seat, however, of the bullæ is from the knees down, including the feet, on the front of both legs. The accompanying photographs show the condition on February 21st, 1910, the boy being then aged 11 years. The right leg is covered with excoriations, old atrophic scars, and bluish-red traces of former bullæ. A very large scar extends over the entire front of the foot from the toes over the ankle and three inches up the leg. This is the remains of the large bulla which existed at birth. The left leg is also covered with scars, and at the time of the photograph several bullæ existed. Two large ones, three and four inches across, are easily seen on the side of the leg, although the fluid from the uppermost one had partially escaped.

There is no history of syphilis or any similar skin-trouble in the family. His grandparents lived to a good old age. His father and mother are both living and one brother and four sisters, all healthy. One brother died of measles and one male child was stillborn. The nails of his thumbs and great toes were again shed about a year ago, and are at present thickened, ribbed, and broken. The other nails show no dystrophy. The soles of his feet have some thickened, horny patches or callosities upon them. Teeth normal. Eyes: no defect of vision, with normal optic disc. Mucous membranes normal. Urine: no abnormal constituent; specific gravity 1020.

The blood analysis shows practically nothing abnormal. There is a rather high percentage of large lymphocytes, but no increase of eosinophiles—in fact these occur in rather fewer numbers than normal. There is also a very slight grade of anæmia.

Red corpuscles	4,400,000 per c.mm.
White corpuscles	7,500 „
Hæmoglobin	82 per cent.
Differential count:	
Polymorphonuclears	52·6 per cent.
Large lymphocytes	23·5 „
Small lymphocytes	21 „
Transitionals	1·4 „
Eosinophiles	1·5 „

The bullæ have not been at all hæmorrhagic, and when they heal up quickly new ones develop much more rapidly. Warm or cold weather seems to make little appreciable difference. Ergot has been tried without effect, and no other drug has controlled the disease. Antiseptic and protective treatment has been adopted. Although friction or injury hastens the production of the bullæ, yet they



To Illustrate Dr. S. W. Allworthy's Case of Epidermolysis bullosa.

develop at times quite independently with some apparent relation to the state of the general health. Puncturing them when small curtails their growth and consequently reduces the extent of excoriated surface.

Epidermolysis bullosa is admittedly congenital and in many cases hereditary. Thus it would seem from the accumulated data and information derived from recorded cases as though the "zygotic rudiment" of the system of cells corresponding to the seat of the lesion may become defective from some cause, or that some unfavourable environmental influence may pervert the normal vital cycle, causing alterations in structure such as reported by Engman and Mook, Savill, Elliot, Bukovsky, and giving rise to increased vascular irritability, so that traumatic and toxic influences easily excite and produce keratolysis and other trophic disturbances.

THE FUNCTIONS OF THE SKIN.

By M. S. PEMBREY, M.A., M.D.,
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Lecture VIII.

The complexity and importance of the skin as a sensory organ has been overlooked and neglected until recent times. This was probably due to the classical division of sensation into the five senses—sight, hearing, smell, taste, and touch. It is now recognised that there are at least four definite sensations which arise in the skin; these are touch, pain, heat, and cold. The specific nature of these sensations, the structures with which they are severally related, and their distribution in the different portions of the skin must first receive attention.

Nearly a century ago Johannes Müller propounded the law which is known by his name, or as the Law of the Specific Energy of Nerves. According to this law the stimulation of a sensory nerve always evokes its peculiar sensation, whatever may be the nature of the stimulus. The stimulation of the retina gives rise to a sensation of sight, and it matters not whether the stimulus be electrical, mechanical, or light itself. It is well known that a blow in the eye makes the recipient "see stars," and the simple experiment of passing an electric current from the forehead to the nape of the neck produces in the subject the sensation of a flash of light.

In the case of the cutaneous sensations, however, it was difficult to demonstrate Müller's law until the investigations of Blix, Donaldson, and Goldscheider, published about twenty-five years ago, showed that the skin was not a continuous layer of sensory endings, but was supplied irregularly with sensory spots surrounded by insentient areas. These sensory spots were found to vary in their distribution in different parts of the skin, and to possess specific functions. On stimulation some gave rise to a sensation of touch, others to one of cold, and others to a feeling of warmth. The specific sensation could be evoked by stimulations of different kinds, and a sensation of cold could be produced by the application of a warm body to a "cold spot."

In this manner Müller's law received an extension and confirmation in the case of the cutaneous sensations. The evidence, however, remained incomplete in one respect. The skin is especially sensitive to pain, and the question arose whether pain was a specific sensation or one due to excessive stimulation of any sensory nerve. It was known that severe cold or heat produced pain, and that visual and auditory sensations might be of a painful nature.

The investigations of von Frey have removed this difficulty and have shown that there are special nerve-endings for pain. The distribution of these endings in the skin is punctate, and the so-called "pain spots" give rise to a painful sensation whatever may be the nature of the stimulus. These "pain spots" are very numerous in the skin, and afford evidence that pain is not a pathological condition, but a specific sensation, a protective mechanism of the greatest importance for the well-being of the organism.

It is necessary to insist that this demonstration of the specific nature of pain is of far more than theoretical importance as a confirmation of Müller's law. It shows that pain is not the "supreme evil" that some writers had maintained it to be, but a sensation which has been evolved for the protection of the organism, and has become more highly developed in those animals which are highest in the scale. It raises, moreover, the practical question whether the means so frequently used to abolish the sensation of pain are not harmful; whether it is wise to so poison the nervous system by drugs that it can no longer respond to its sensations. The response to a sensation of pain produced by an injury to any part of the body is both local and general, and its nature is such that the changes are protective, and, on the whole, beneficial to the individual and the race.

The numerous free endings of nerves between the epithelial cells of the skin may be for the reception of painful stimuli. The total number of "pain spots" varies between two and four millions.

A more detailed consideration of the special senses of the skin is now necessary. Touch is the sensation produced by mechanical stimulation; it is the recognition of a deformation of the surface of the skin or of its hairs. This is the ordinary condition, but any stimulation of the touch corpuscles or nerve-endings will give rise to the sensation; there may, indeed, be no external stimulus; the change may be in the skin itself.

The delicacy of touch is diminished when the skin has become thickened and hardened by manual labour, for the deformation of the skin as the result of a given stimulus is slight and is distributed over a larger area. The "tactile spots" do not give rise to sensations if they are repeatedly stimulated in a similar manner and over a similar area of the skin. Adaptation is soon acquired. As regards clothing this is well known to everyone. A rough woollen vest will cause irritation to the skin the first time it is worn, but in a day or two the wearer has become so accustomed to the contact of his skin with the woollen fibres that he is unconscious of any sensation from the parts of the skin so covered. In a similar way the frame and arms of a pair of spectacles produce at first a definite and irritating sensation of touch or pressure, but after a time the wearer becomes quite unconscious of any tactile sensation arising therefrom. Indeed, it is by no means rare to see an elderly person, who has been accustomed for years to rest his spectacles on his forehead, searching and inquiring for them when they are still there.

The sensitiveness of the skin to touch may be investigated in two ways; the minimum pressure necessary for the production of a deformation of the skin which will give a sensation of touch may be determined, and the minimum distance in space which must separate two adequate stimuli, if two sensations are to be distinguished, may be measured. For the first determination hairs or bristles of different degrees of stiffness have been employed; their values as regards sectional area can be measured by a microscope and micrometer, and the pressures which they will exert can be tested against a balance. For the second determination a pair of compasses with blunt points can be used, and the power of tactile localisation is expressed in terms of the number of millimetres which must separate the two points when, on application to the skin, two definite sensations arise.

When the skin of different parts of the body is tested in these ways a great range of sensitiveness is found. The following table gives the results obtained by von Frey for the intensity of the stimulus required:

	Grm. per sq. mm.		Grm. per sq. mm.
Tongue	2	Back of hand	12
Nose	2	Calf of leg	16
Lips	3	Shoulder	16
Tip of finger	3	Back of arm	26
Forehead	3	Abdomen	26
Back of finger	5	Outside of thigh	26
Palm of hand	7	Shin of leg	28
Arm	7	Sole of foot	28
Thigh	7	Back of forearm	33
Forearm	8	Loin	48

In the next table are given some of Weber's results for the minimal distance between the points of the compasses when a double sensation was experienced by the subject of the experiment, an adult man.

	Millimetres.		Millimetres.
Tip of tongue	1·1	Forehead	22·6
Volar surface of ungual phalanx of finger	2·3	Dorsum of foot	31·6
		Forearm	40·6
Lip	4·5	Leg	40·6
Dorsal surface of third phalanx of finger	6·8	Back of neck	54·1
		Middle of back	67·1
Palm of hand	11·3	Arm	67·1
Dorsal surface of second phalanx of finger	11·3	Thigh	67·1

These results express in more exact terms the knowledge obtained by everyday experience. The contrast between the delicacy of touch of the skin of the fingers and that of the back is well known.

In the case of the sense of touch or Weber determined the pressure, increase in the strength of the stimulus which was necessary to produce a just perceptible increase in the sensation, and he found that it was a definite fractional increment. Thus, if one can just distinguish between the pressure of 30 and 31 grammes, the increase would be from 60 to 62 and from 120 to 124 grammes for the perception of a difference in the respective pairs of weights; the increment in weight would be $\frac{1}{30}$ in each case. This interesting relationship between the stimulus and the sensation is now known as Weber's Law.

The skin is well supplied with nerve-endings and with special corpuscles or cells connected with nerves, but it is not easy to determine the special function of each one. From a comparison of the structures in different portions of the skin possessing different degrees of tactile sensibility it is probable that Meissner's corpuscles are associated with the tactile sense. There is also a definite relationship between the "touch spots" of the skin and the hair-follicles, which are surrounded by a ring of nerve-fibres. The hair acts as a lever, and transmits any pressure which is applied to it and thus stimulates the nerve-endings.

It has been estimated that the naked skin of the body possesses about half a million "tactile spots." Although these are all classed as tactile, the sensations evoked by mechanical or other forms of stimulation differ in quality in different parts of the skin; this is proved by the common use of such terms as "tickling," "itching," or "pricking sensations."

The sensations of cold and of warmth are specific, for Blix and Goldscheider found, by the application to the skin of the points of metal rods, that there are some spots at which the sensation of cold is evoked, whereas other spots yield only a feeling of warmth. These spots vary in their distribution in different parts of the skin and in different subjects, but the "cold spots" far out-number the "warm spots." Calculations based upon determinations of the spots in certain areas of the skin give the total number of "cold spots" as half a million, and that of the "warm spots" as 30,000.

There are differences in the sensitiveness of different parts of the skin to heat and cold and the personal equation is well marked; a difference of $\frac{1}{20}$° C. may be recognised. During the greater part of life we are not conscious whether our skins are hot or cold; we become adapted within certain limits to its temperature when it slowly changes. This condition of comfortable equilibrium is known as the physiological zero temperature. We experience the greatest effect on passing from a warm to a cold atmosphere, but after a time adaptation again occurs. It is interesting that this adaptation obtains when the different parts of the skin are at different temperatures: thus the skin of the clothed parts of the body may feel warm to the naked hand at a time when all parts of the body are at the physiological zero temperature. Not only does the indifferent temperature vary at one and the same time for different parts of the skin, but also for the same portion of the skin at different times. The indifferent temperature is more constant in those parts of the skin which are covered than in the uncovered peripheral parts. The power of adaptation varies in different subjects. The reaction to cold is much more rapid than that to warmth, and this is not only shown by a study of the sensations but also by the changes which occur in the respiratory exchange.

An interesting demonstration of "cold spots" can be obtained by the use of menthol, a popular remedy which is rubbed over the forehead when there is headache; it acts not only by evaporation but also by increasing the excitability of the end-organs for the sensation of cold.

The special nerve-endings for "heat" and "cold" have not been definitely determined; the end-bulbs, similar to Krause's end-bulb in the conjunctiva, may be for cold, and Ruffini's end-organ may be for heat. It is also by no means certain what is the adequate form of stimulation. Weber held that the adequate stimulus was the rise or fall in the temperature of the end-organ in the skin. On the other hand, Hering maintains that the stimulation is due to the difference between the temperature of the end-organ and the indifferent or physiological zero temperature to which the skin for the time being is adapted. As the result of numerous observations upon the sensations before and after division of human nerves Rivers and Head conclude that the skin is endowed with two means of appreciating temperature. The one mechanism reacts to punctate stimuli and has a high threshold, for there is no response to temperatures between 26° and 37° C. (78·8° and 98·6° F.); its end-organs are strictly specific, and are dotted so irregularly throughout the skin that large areas may be entirely devoid of "heat spots." The other mechanism responds not at all to punctate stimuli, but readily to temperatures above 26° and below 37° C. when the application covers a more extensive area; the response depends upon the temperature to which the part is adapted; thus at one time 30° C. (86° F.) may appear warm, at another cold, according to the condition of the skin at the time, whether it had been previously adapted to cold or heat.

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Numerous references to the literature of the subject are given in each of these works.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A MEETING of the Dermatological Section of the Royal Society of Medicine was held on Thursday, November 17th, at 11, Chandos Street, Dr. T. COLCOTT FOX, President, in the Chair.

Dr. H. G. ADAMSON showed a case of *Pemphigus foliaceus* of sixteen years' duration. The patient, a Polish woman, aged 39 years, was now in the Whitechapel Infirmary under the care of Dr. Woodyatt, who had kindly allowed the exhibitor to show her at this meeting. She was well nourished and apparently in excellent health, except for the state of her skin. The skin of the whole trunk was redder than normal, and there were present on the arms and legs, and to a less extent on the trunk, areas which were the seat of excoriated, oozing patches, intermixed with sixpenny-piece to florin-sized, wrinkled, papery scales or crusts. The scales or crusts were evidently made up of the separated horny layers of the epidermis, together with dried secretion, which were the remains of bullæ, and here and there were flaccid bullæ of recent formation. The skin of the trunk and limbs, where it was not the seat of actual lesions, though apparently sound, was really profoundly altered—for pressure with the finger upon any part caused the superficial layers of the epidermis to slide off the deeper layers, leaving a red, raw surface. This, the well-known "Nikolsky's sign," though occurring also in some cases of Pemphigus vulgaris, was particularly well marked, as in this instance, in cases of Pemphigus foliaceus. In the patient exhibited, if the margin of a blister or a tag of the artificially separated epidermis were pulled up with forceps the upper layer of the epidermis could be literally stripped off from the deeper layers.

The skin of the face presented what had been described as a tesselated appearance—that is to say, the whole of the superficial layers of the epidermis was broken up into irregularly polygonal patches by cracks extending through the horny layers and crusted with dry serum. The hair was rather thin and coarse. The nails were normal. The mucous membranes were unaffected. There were no subjective sensations of itching, smarting, or pain.

At the present time the patient was having no other treatment than a daily non-medicated bath, followed by the application of a simple ointment. Dr. Woodyatt had written that the patient had been in the Infirmary for a very long time; that she was at present comparatively well, the whole body being at times almost completely covered with scales and crusts.

A remarkable feature about the case was its long duration. The patient had been shown at a meeting of the Dermatological Society of London by Dr. Pringle in 1897 as a case of *Pemphigus foliaceus*. Dr. Pringle's report, published in the *British Journal of Dermatology* (vol. ix, 1897, p. 332), would be quoted as showing how little the patient's condition had altered during the past thirteen years, and also because it indicated the difficulty there might be in diagnosing an extensive eruption of Pemphigus foliaceus from one of general exfoliative dermatitis. Dr. Pringle's note (in 1897) ran as follows: "The disease began in the early part of 1893 as patches, first on the hands, then on the feet, and rapidly a universal dermatitis was established, since which time she has been in very numerous hospitals and infirmaries throughout London. She was under the exhibitor's care for a period of six weeks in the autumn of 1894. She then manifested all the typical phenomena of a *general exfoliative dermatitis* of the type originally described by Erasmus Wilson. The dermatitis was universal; the scaling was extremely abundant, being branny over the face and limbs, but in large sheets over the trunk. The subjacent skin was vividly red, and only oozed slightly in the large flexures; the scalp was covered with a thick seborrhoic cap, and almost completely devoid of hair; the eyebrows were practically destroyed; the nails were thickened and grew with great rapidity. The subjective skin sensations complained of were smarting and pain —not itching—and a sense of cold, with great sensitiveness to change of temperature in either direction. The mucous membranes were unaffected, and she was in good general health, with an enormous appetite, and, apparently, perfect digestion. Her bowels acted regularly; there was occasional slight albuminuria. Treatment by local and general measures—including, of course, thyroid feeding—did not influence the disease. She was ultimately discharged *in statu quo*, partly on account of her intractability and incorrigibly filthy habits. The most recent development of the case has been the appearance of flaccid bullæ, especially numerous upon the backs of the hands and forearms, and these appeared to the exhibitor to imprint a more definite nature upon the case than his original diagnosis implied. Several of these blebs were present when the patient was exhibited, otherwise she showed wonderfully little change for the worse since 1894."

The **President** said he had recently had to study a good deal of literature concerning Pemphigus foliaceus, and he found quite a number of cases so described which were really Dermatitis herpetiformis, characterised by vesicles coming out in clusters and rings; and he had a remarkable case which he showed at the International Congress in London. The patient was a girl who had been in two great London hospitals, under highly competent physicians, who had both diagnosed Pityriasis rubra; there was an absolutely universal, dry, desquamating surface. When she came under his care the disease process was less intense and the outbursts spaced, so that he was enabled to see over and over again the formation of excentrically spreading rings of vesicles.

Dr. **Pringle** said he remembered the patient very well indeed when she was under his care at the Middlesex Hospital in 1897. It was amazing to him to see that she was in such good health, and to hear that apparently she had recovered from time to time. She had had a universal severe dermatitis with typical "pie-crust," flaky exfoliation, and characteristic flaccid blebs appeared from time to time. The progress of the case was in marked contrast to that usual in such conditions, and he thought it reflected the greatest credit on the authorities of the Infirmary of which she had been so long an inmate. Dr. Pringle was quite unable to see any resemblance in the disease to Dermatitis herpetiformis, which was apparently suggested by some Fellows present as an alternative diagnosis.

Dr. **Graham Little** had had a rather similar experience of long survival of a patient who had shown the symptoms of Pemphigus foliaceus. Dr. Pringle would probably recall the case, as he had been good enough to visit the patient in St. Mary's Hospital, and had confirmed the diagnosis. This patient was now quite recovered, and it was about eight years since she had first come under observation. The eruption had recurred very frequently for several years; latterly the flaccid bullæ, which had been the feature of the earlier attacks, no longer appeared, a general scarlatiniform desquamation taking their place, and this also had finally ceased.

(2) A case of *Acne scrofulosorum* in a patient who had *congenital syphilis.* The patient was a girl, aged 16 years, who presented radiating scars at the corners of the mouth, interstitial keratitis of the right cornea, and peg-shaped upper lateral incisors, and whose blood had given a positive reaction to the Wassermann test. She had also had recently a typical eruption of Acne scrofulosorum (papulonecrotic tuberculide), of which the scars remained, on the hands, forearms, and legs.

(3) A case of *hyperkeratosis of the palms and soles.* The patient was a woman, aged 39 years, who had had the condition of the palms and soles for ten months. The whole of each palm, and the whole of each sole, except the concave arch on the inner side, were involved. The horny epidermis was thickened to the extent of 5 to 6 mm. ($\frac{1}{8}$ in.), and everywhere broken up into small discs by fissures through its thickness. Clinically, there appeared to be no underlying inflammatory condition. There was no eruption elsewhere. The condition was obviously not a parakeratosis the result of psoriasis, eczema, or syphilis, but was a pure hyperkeratosis. It resembled some cases of congenital hyperkeratosis. The exhibitor asked whether members were familiar with such cases as an acquired condition. He thought that X-ray applications in pastille doses would probably effect a cure.

Dr. SEQUEIRA had treated three such cases with X-rays, with apparent cure, but followed by relapses of the condition.

Dr. PRINGLE said he had seen a good number of such cases. They usually were sent to the X-ray department, where they got a pastille dose and got temporarily better. Then they had a recurrence in three or four months and required further similar treatment. The patients were nearly always women about the same age as that exhibited. He used to think they were all associated with hyperidrosis, but had for some time past modified his views as regards the point.

Dr. MACLEOD said he had a case of keratosis of the palms somewhat similar in appearance to that exhibited by Dr. Adamson in a woman of middle age. In her case, however, it was preceded by hyperidrosis. Treatment by full doses of the X-rays served to keep it under, but had not permanently cured it.

Dr. HALDIN DAVIS showed a case of *Lichen scrofulosorum*. The patient was a girl, aged 13 years, who had been attending Paddington Green Children's Hospital for about six months. She came up to consult the exhibitor for an eruption consisting of small, reddish, lichenoid papules, some of them surmounted by scales; they were grouped in clusters and showed also in some places a circinate arrangement. The eruption was confined to the upper parts of the thighs ("bathing-drawer distribution"), and a few papules were also found upon the extensor aspect of the forearms. She complained of no subjective symptoms whatever. Nor when she first came under observation did she exhibit any other sign of disease in any part of her person. It should, however, be mentioned that she had leucodermia about the neck. The contrast of pigmentation between the pale areas and the surrounding pigmented skin was not very marked, but of the existence of leucodermia there was no doubt. After being under observation for about a month she suffered from an affection of the eyes for which she attended at an ophthalmic hospital and after some little time it quieted down.

The diagnosis lay between Lichen scrofulosorum and a small miliary syphilide. With the latter assumption the eye affection, which might have been an interstitial keratitis, and the leucodermia of the neck, which might have passed for a specific leucodermia, quite well accorded, but there was no history or trace of a primary lesion, and an examination of her blood for the Wassermann reaction gave a negative result. Anti-syphilitic treatment, therefore, was not tried. Recently she was an in-patient at the hospital and the opportunity was taken to make a biopsy, and a von Pirquet reaction was also done, which gave a strongly positive result. Her eyes, too, were examined by Mr. Mayou, who pronounced that she suffered from tubercular iritis, which had, however, subsided into a quiescent condition. The points upon which he lay stress were that one eye only (the right) was affected and the presence of Keratitis punctata. The section, too, showed an infiltration of small round-cells only, grouped in a manner suggesting a tuberculide. The final diagnosis, therefore, was Lichen scrofulosorum, and a point of great interest in connection therewith is the association with tubercular iritis—a most unusual combination.

As regards treatment, tuberculin was suggested for the skin eruption, but as the iritis was quiescent it was considered that this method of treatment would not be justifiable, as it might cause the recrudescence of trouble in the eye. On the suggestion of Dr. Pringle, thyroid extract will now be tried.

Dr. **GRAHAM LITTLE** did not think that this case could be included in the clinical group with such definite characterisation as Lichen scrofulosorum, which, in his opinion, this case did not even resemble. In many of the lesions there was definite follicular atrophy, which did not occur with the clinical variety he associated with the name Lichen scrofulosorum. The negative Wassermann could not, in his opinion, be regarded as excluding syphilis, which this case much more nearly resembled, and the iritis could surely equally well be syphilitic as tuberculous.

Dr. **MACLEOD** said that the case suggested a type of eruption which had on several occasions been reported as having occurred after the injection of the old tuberculin for purposes of diagnosis.

The **PRESIDENT** exhibited (1) a man, aged 63 years, suffering from a generalised eruption, which was probably *Mycosis fungoides*. The history obtained was that he had sore nostrils for twelve months about three and a half years ago, and some red spots on the head. Gradually larger patches appeared on the legs and body. He has had a good deal of treatment, such as by arsenic internally and resolvents externally. The President first saw him in January, 1910, and then the body and limbs were the seat of disseminated, somewhat psoriasiform, indolent reddened patches, up to half-a-crown in size, some macular and some rather infiltrated. They were very itchy. In contrast to psoriasis the patches inflamed up under the action of tar applications. There was a successive formation of these lesions, and some gradually disappeared spontaneously. On the scalp were several smooth tumour-like formations about the size of a walnut.

At the present time the patient is in much the same condition, but the lesions have decidedly increased in number. The tumours of the scalp have disappeared. There is no history of syphilis or of any nerve trouble. The buccal mucous membrane is free.

The diagnosis of the pre-tumour stage of this malady is always of interest. He would be grateful for any suggestions for treatment.

Sir **MALCOLM MORRIS** asked whether the nodules of the scalp projected to a greater extent than those in other parts of the body. Also, was there any history previous to the twelve months during which Dr. Colcott Fox had known of the case? He said that all the long-standing cases that he had seen had been made worse by treatment with tars and such-like preparations.

Dr. PRINGLE entirely corroborated the diagnosis, and said that treatment by means of the X-rays would probably be very useful, and was not so difficult to carry out for such extensive lesions as might be imagined. One similar patient whom he had had under observation for at least ten years had been "kept in order" by means of the X-rays at intervals of a few months, and had had no definite return of mycotic growths for the last twelve months. Whenever a localised patch of erythema with infiltration or mycosis appeared he was promptly treated at the hospital, with the result that he was kept practically well.

Dr. STOWERS reminded members of the case of a clergyman, aged 31 years, exhibited by him in 1902. The manifestations, closely resembling those of the present patient, were recognised as the early stage of Mycosis fungoides in 1893. The disease developed and proved fatal about 1906, in spite of persistent treatment, including X-ray.

Dr. SEQUEIRA said that he had seen several cases which had relapsed in spite of the X-ray treatment. One patient whom he had brought before the Section, and whose portrait had appeared in the *Transactions*, after being entirely free from this disease relapsed on going into the country about six months afterwards, and had since died, apparently from exhaustion following severe diarrhœa.

(2) A childless married woman, aged 43 years, with a group of *rounded ulcers* on the left arm just above and over the elbow-joint. The first lesion is said to have begun with a "pimple," October, 1909. In January, 1910, she was an in-patient for a diseased heart and rheumatic pains. When Dr. Fox first saw her she had an intractable, round ulcer on the arm, and he could only get it to heal when the dressing was sealed up by collodion. When it was healed another similar ulcer appeared in the immediate neighbourhood with the same characters, only healing under collodion dressing. A third and a larger fourth ulcer appeared in the immediate neighbourhood when those previously existent healed up.

The President said such a case presented much difficulty. He failed to assign it to any cause, such as syphilis, and strongly suspected an *artefact dermatosis*, though the patient was not strikingly hysterical.

The opinion generally expressed coincided with Dr. Colcott Fox's view.

Dr. GRAHAM LITTLE showed (1) a case of *Sarcomatosis cutis* of the "Perrin" type in a young man, aged 25 years. The disease had begun probably nine weeks ago, with lesions on the chest. There had been no subjective symptoms, and this patient had seemed in his usual robust health. He was seen at St. Mary's Hospital for the first time a fortnight ago, and then had an efflorescence of the following character. Scattered over the chest, the back, and the upper part of the arms and thighs there were very numerous roundish elevations, the skin covering them being of a faint pink colour, and showing rather accentuated "pores." There was no scaling or other alteration of the surface. On palpation the pink surface was found to cover a tumour mass of considerable firmness, but not hard, and the size and elevation of the swelling was about that of a half-walnut. The largest of these tumours was on the middle of the front aspect of the left thigh. He had in addition a hoarse voice and great congestion of the fauces, uvula, and throat; the tonsils were swollen as well. He was seen by Dr. William Hill, who regarded the throat as probably syphilitic. The opinion at first formed by the exhibitor of the eruption was that it was Mycosis fungoides of the "tumour d'emblée" type described by French authors, but the complete absence of any itching or other subjective sensation and the rapidity of the increase seemed to forbid this diagnosis. At the instance of Dr. Hill a Wassermann reaction was made in the Inoculation Department and was reported to be negative. A small tumour the size of a shilling was excised from the shoulder, and on microscopic examination the diagnosis of large round-celled sarcoma was made by the exhibitor. Sections were submitted to the meeting and this diagnosis was confirmed.

The Sarcomatosis cutis was apparently primary, for no earlier accident or operation was mentioned, inquiry being pressed in this direction. There was considerable general enlargement of glands in the neck and groin. The blood had not been examined, but it was proposed to take the case into hospital, and a more detailed report, in view of its extreme rarity and importance, would be contributed later to the *British Journal of Dermatology*.

Sir **Malcolm Morris** suggested that the man be given arsenic in large, even poisonous doses, or atoxyl.

(2) A case of *nævo-lipomata* in an infant, now aged 10 weeks, in whom there was a widespread capillary nævus (port-wine mark) of the side of the body, and in addition a number of large circumscribed

smooth fatty growths, from the size of a hen's egg; there was a diffuse, fatty infiltration of the skin as well over the whole upper part of the back and the shoulders without actual tumour formation; the integument here was so much thickened and swollen as to cause deformity, but the surface of the skin was normal; both the nævus and fatty swellings were congenital; the latter were increasing rapidly in size according to the mother's statement. The child was of Jewish parentage and was somewhat wasted and thin. Congenital lipomatas were rare; the exhibitor had never seen in his fifteen years' experience at the Children's Hospital a quite similar case. No other diagnosis seemed probable, and this was accepted by the Section.

(3) A case of *Pityriasis rubra pilaris.* The patient was a young woman, twelve months married, aged about 26 years; she had no antecedents which were relevant to the eruption, which had commenced a fortnight previously, apparently on the chest. She was now very extensively covered with a quite typical eruption of follicular acuminate papules where these were discrete; with sheets of scaly dermatitis where coalescence of the eruption had occurred. The scalp, face, forearms, hands, back, thighs and legs were thus involved in sheets of dermatitis, but the eruption was nearly universal; in other parts, as, for example, on the chest, the papules were discrete. There was the usual horny, dirty-looking thickening over the joints; the phalanges were covered with exfoliating thickened skin, so that the follicular papules so characteristic in these parts could not be distinguished. There were no lesions of mucous membranes. She had never had any skin-eruption prior to this attack.

Dr. **Whitfield** asked whether Dr. Little had a satisfactory treatment for the disease. He had a case which he had treated seven years with every described remedy without being able to modify it in any way, except that when he macerated it the scales came off. But it recurred.

Dr. **Sequeira** said he had tried small doses of tuberculin in one case, but he could not say there was much improvement. The patient gave a positive reaction to the von Pirquet and Moro tests. Milian had reported cases in which great benefit had followed injections of tuberculin, and some of the French writers looked upon Pityriasis rubra pilaris as a tuberculide.

(4) A case of *Granuloma annulare.* The patient was a young man, aged 18 years, who for three years had had the small lesion seen at present on the back of the left hand, near the base of the left middle finger. The lesion consisted of a ring formed of discrete,

shiny and flattened, white, wax-like papules, closely juxtaposed and forming an almost continuous ridge. In the centre of some of the papules, especially on the radial side of the ring, there was a slight depression. The ring was three quarters of an inch in diameter, and formed a perfect circle enclosing an area of skin which in all other respects was normal, except that it was somewhat purplish in colour, considerably darker than the rest of the skin. The earliest lesion had been a single nodule or papule. There were no subjective symptoms connected with it and no lesions anywhere else. The extremities were habitually blue and cold. The patient's family history was instructive: The maternal grandmother had died of "cancer." Of a numerous family all the mother's sisters and brothers, with the exception of one, had died of "consumption." This predominance of tuberculosis in the family history had been frequently noted in cases of Granuloma annulare.

The nomenclature of this disease it was hoped would be settled in the near future. In the last edition of *Hyde's Dermatology* Granuloma annulare was adopted as the most convenient name out of ten alternatives mentioned with it. This name had, at any rate, the merit of distinctiveness; it had a long start of all others, it was probably destined to win in the long run, and the sooner it was finally accepted the better.

Dr. **Pringle** raised a question whether this was a case of Granuloma annulare; the papules with the central depression were unfamiliar to him in that connection; the possibility of poro-keratosis must be kept in mind.

Drs. **Colcott Fox** and **Adamson** supported the diagnosis made by the exhibitor.

In view of the differences of opinion sections would be shown later.

Sir **Malcolm Morris** showed *a case for diagnosis*. The patient was a man, aged 72 years, who had lived for many years in India. He was first seen by the exhibitor in 1903, when he complained of a large thickened patch of skin covering the upper third of the outer surface of the right thigh. The lesion consisted of cutaneous and subcutaneous nodules forming a lage area of irregular shape, resembling in appearance and consistency a patch of sclerodermia. When he was seen again this year it was noted that the thickening had extended downwards and had disappeared from the upper part. The nature of the disease was obscure, but owing to the fact that some of the nodules had come to the surface and discharged a clear fluid it was suggested that the lesion was of the nature of a Lymphangioma cavernosum. It was thought by some of the members present to be allied to the cases described as benign sarcoid of Boeck.

Dr. **Arthur Whitfield** expressed the opinion that the case belonged to the type called "benign sarcoid" by Boeck. Most of these tumours had been shown to be tubercular in nature, but if this was tubercular it must be a most extraordinarily chronic case. He suggested a diagnostic injection of old tuberculin.

Dr. **Pringle** was inclined to accept Dr. Whitfield's suggestion that the condition corresponded in many respects with the "sarcoids" of Boeck. According to his recollection of the literature of the subject, however, the lesions were generally much smaller and widely scattered, not massed together as in the case exhibited. He had only had one case corresponding to Boeck's description under his own observation, which had previously been variously diagnosed as multiple gummata, tubercular nodules, and Bazin's disease. Unfortunately the man had been lost sight of.

Dr. J. H. **Sequeira** showed (1) a case of *melanodermia associated with pernicious anæmia.* The patient, a man, aged 30 years, was a butcher in a country village. He had never had anything to do with the preservation of meat or hides with chemicals. His general health had been good until July, 1909. There was no history of syphilis and the Wassermann reaction was negative. His illness dated from July, 1909, when he first complained of intense irritation all over the body. The itching was worse when the weather became cold. For eight months pruritus was the sole symptom, but six months ago, on leaving work he noticed a red "rash" on the wrists and arms. The erythema spread, but passed off in a couple of days and was succeeded by desquamation, the skin peeling off in flakes as large as a shilling or less. This scaling affected the whole of the body, and continued for some time after the patient's admission to the London Hospital on August 30th, 1910. Six weeks before this his hair began to come out, and at the end of August he was completely bald.

On admission the patient was obviously very ill, his face was haggard and shrunken, and this, with the baldness, gave him the appearance of a decrepit old man. His weight was only 6 st. 7 lb. He still complained of intense irritation all over the body and of a peculiar sensation, as if water were running off the skin.

During the illness the skin gradually darkened, and on admission to the ward the chest, abdomen, back, arms and legs were of a brownish-black, almost negroid tint. The face was of a greyish-brown colour, and there was less pigmentation of the scalp and the hands than of other parts. The mucous membranes, so far as they could be examined, were free from pigment.

During the early part of the illness there was grave dystrophy of the nails. In addition to the pigmentation of the skin there was slight scaliness, and on the trunk and extremities there were numerous blebs the size of a split-pea. The bullæ were very numerous on the back and on the palms. They ruptured soon after their appearance and a clear fluid exuded. The ruptured bullæ left a blood-tinged spot which in some instances became slightly cicatricial and white on healing. When shown at the meeting the scaliness and the bleb-formation had ceased, but the skin of the extremities was exceedingly tough and could not be pinched up.

General condition.—The teeth were all extremely carious. The mouth was very foul and the patient complained of an unpleasant taste; before speaking he always had to moisten his lips and buccal mucous membrane. All through the illness the appetite had been very good, and even ravenous. There had been no excessive thirst, and no nausea or sickness. There had been no abdominal pain. The bowels acted regularly, but were slightly loose while he had been taking medicine in hospital.

The liver and spleen were not enlarged and nothing abnormal could be felt in the abdomen. The urine was normal in amount and constituents. There were no symptoms of pulmonary disease.

The heart was not enlarged, but there was a systolic (hæmic ?) murmur over the pulmonary area. The pulse was regular and full. The blood-pressure had never been very low; in October it registered 116 millimetres of mercury. The internal administration of adrenalin raised the pressure very little.

The blood-examination revealed a remarkable diminution of red corpuscles, with poikilocytosis.

September 3rd: Red cells, 1,530,000; hæmoglobin, 28 per cent.; colour index, ·9; leucocytes, 5800; poikilocytosis, normoblasts, megaloblasts present.

September 10th: Red cells, 1,135,000; hæmoglobin, 24 per cent.; colour index, 1·1; leucocytes, 14,000; poikilocytosis as before.

On September 15th he was given (on Dr. Grunbaum's suggestion) a subcutaneous injection of arsacetin (grs. ij in ten minims of water), and this was repeated every night till September 23rd, when the injections were stopped on account of diarrhœa.

On September 25th there were 1,950,000 red cells, hæmoglobin 35 per cent., colour index ·9. There was still poikilocytosis.

On September 30th he was put on Fowler's solution ♏iv, tr. nucis. vom. ♏v thrice daily in water after food. This medicine was continued till October 25th, when ♏ij of Fowler's solution were added to each dose.

On October 17th the blood contained 2,350,000 red cells, hæmoglobin 35 per cent., colour index ·8. Poikilocytes, normoblasts and megaloblasts present.

On November 3rd the blood condition was almost identical.

During the early part of his stay in hospital the patient was in a very grave condition, but he had improved remarkably with the arsenic preparations. His hair began to grow rapidly, and he began to take an interest in life and put on weight steadily, scaling 7 st. 2 lb. on October 18th.

Besides the internal treatment and full diet, local applications of lead, calamine, and weak carbolic solutions had been applied to relieve the itching, but without much benefit. It was subsequently found that a soothing ointment of zinc carbonate with a little salicylic aid gave the most relief. He also had oatmeal baths.

The condition was so unusual that the exhibitor was unable to do more than hazard the suggestion that the pigmentation depended upon some adrenal disease. It was questionable whether the pernicious anæmia alone could explain the remarkable discoloration of the skin. It was absolutely certain that it did not depend upon arsenic, because it had diminished to a considerable degree while the patient was having the arsacetin injections and taking arsenic by the mouth.

Since the meeting Dr. Parkes Weber has kindly drawn Dr. Sequeira's attention to a case published by Dr. H. Neumann (*Deutsch. med. Wochens.*, 1894, Jahrg. xx, p. 105), in which a man, aged 57 years, who was supposed to have Addison's disease of acute onset, suffered from severe anæmia. The blood-count rose from 1,120,000 on April 15th, 1885, to 7,700,000 in January the following year, and then fell below normal.

Dr. **Pringle** asked whether there was any evidence of pancreatic disease, of which the pigmentation was suggestive.

Dr. **Sequeira**, in reply, said no pancreatic disease, nor anything abnormal, could be found in the abdomen. The duration was fourteen months, and the patient was now getting better. He had never given up meat, but always had a mixed diet. The condition of the pulse had never suggested adrenal inadequacy, and there had been no visceral crises.

(2) *Symmetrical angiomatous swellings in a tuberculous subject.* The patient, a tall, emaciated man, aged 21 years, had suffered from infancy from cold hands and feet, but had never had chilblains. He is said to have had some chest complaint when a child, and had recently had enlargement of the cervical glands.

When twelve years old red patches appeared upon the hands, elbows and feet, and on the knees and ears. He described a patch as beginning with the formation of dark red "pimples" upon which "blisters" developed. Upon the red patches annular elevations the size of a sixpenny-piece appeared. These rings lasted for a few weeks and constantly recurred, and he was never free from them.

On admission to the Hospital there were symmetrical purplish-blue flat swellings of irregular outline on the backs of the hands and wrists and on the knuckles, and also on the dorsal surface of the feet, elbows, knees, and on the lobules of the ears. On the wrists and backs of the hands the swellings were as large as half-a-crown. Upon them there were small warty elevations as large as a pea, and several annular swellings the size of a sixpenny piece. The lesions were limited to the skin. Those on the ears were nodular and about the size of a small pea. On the front of the right knee there was a keloidal scar. The purplish swellings were blanched by pressure, and slight traumatism caused a troublesome ulceration. The lesions were painful, and always much worse when exposed to cold. With warmth the colour lessened and the pain was less. The patient gave a positive reaction to the von Pirquet test, and there was a marked enlargement of the cervical glands on the right side.

A portion of one of the lesions, including one of the annular swellings, was excised for microscopical examination, and a section was shown at the meeting. In the epidermis there were a few areas in which the prickle-cell layer was slightly thickened. The main changes lay in the dermis, and consisted of a vascular hyperplasia and cellular infiltration. The vessels were very numerous, and many were tortuous, and their walls showed a marked thickening. The cellular infiltration was most marked immediately below the epidermis and around the vessels. It consisted of mononuclear cells, most being of the early fibroblast type. Lymphoid cells and plasma-cells were scarce. Dr. Sequeira was indebted to Dr. Panton for the report on the sections.

The vascular hyperplasia led the exhibitor to suggest a relationship between the affection and angiokeratoma, in which there appears to be little involvement of the epidermis in some of the reported cases. Many authors have described angiokeratoma as a tuberculide, and the patient shown was undoubtedly tuberculous. The cellular infiltration, however, was not of the type met with in the affections commonly recognised as tuberculides, there being very little of lymphoid or plasma-cell infiltration.

Dr. PRINGLE said he did not think the case tallied in any respect with the original conception of angiokeratoma as first described by Mibelli in 1889, his own cases being published in *The British Journal of Dermatology* in 1891. The original cases presented merely dilated telangiectases with some horny keratosis on top of them, but ulceration was foreign to it. He believed the case shown was an instance of tuberculosis occurring in a person with low peripheral circulation. Most dermatologists now agreed in negativing any direct connection between chilblains and tubercle. He was well aware that certain aberrant types of angiokeratoma had been described and accepted as such since the dates mentioned, but he thought it would be a pity to extend the term "angio-keratoma" to the present condition.

Dr. WHITFIELD showed a case of *Parakeratosis variegata* (?). The patient was a baker, aged 57 years.

On December 21st, 1908, he was operated upon for hernia, and, owing probably to lying in a bad position after the anæsthetic, he developed some paresis of the right arm. This was treated with the battery and passed away. Three months later, *i. e.* about one year and eight months ago, he developed the present eruption on the right arm. This got gradually worse, and then, about nine months ago, appeared on the left arm, since which time it had remained more or less stationary with a tendency to become more marked.

On exhibition the rash was seen to be limited to the forearms and the lower thirds of the upper arms. There was no rash elsewhere on the body or in the mouth. The eruption was more marked on the flexor than the extensor surfaces and consisted of an exquisite network of bluish-red, very flat lesions On studying these closely it was found the lesions were in some cases very slightly raised, in others slightly depressed. They were polygonal in outline, showed no surface disturbance, and partly disappeared on pressure, leaving a brownish stain. In the lesions one could make out with a lens a certain amount of capillary telangiectasis, but there were no white striæ such as one sees with Lichen planus. No infiltration could be detected with the finger. Itching was slight. A biopsy had been performed with the following results :

In places there was a patchy pigmentation of the basal epithelial layer. Over one of the lesions the epidermis was markedly atrophied, the palisade layer having disappeared and the mucous layer being reduced to four or five flattened cells resembling in shape those of the stratum granulosum ; the granular layer itself was present and the horny layer apparently normal. Beneath the atrophied epidermis, which was sharply limited, there was a well-defined small patch of lymphoid infiltration, the pressure of which appeared to be flattening out the epithelium above. The rest of the skin was apparently normal. It would seem that the early lesion was the infiltration which caused slight raising of the skin surface, and by interfering with the circulation determined the telangiectasis. After a time the epidermis atrophied over the infiltration, causing flattening of the papule and resulting in shallow depressions where the infiltration resolved.

The exhibitor said that the diagnosis was quite tentative, but the eruption strongly resembled that in Dr. Colcott Fox's classical case.

Dr. GALLOWAY remarked on the fact that the eruption in this case was on the arms and nowhere else on the body. The distribution and appearance suggested that the erythematous and atrophic condition of the skin might be due to the long continuance of some form of irritation arising possibly in the patient's occupation. Members of the Section were no doubt familiar with various forms of irritation and chronic inflammation of the skin which advanced to a condition of local atrophy, and it was often difficult to give an exact explanation of their cause. He quite recognised the points of resemblance in the patient's condition to what had been termed "Parakeratosis variegata." Dr. Galloway said he would be glad if Dr. Whitfield, in his reply, would state what he considered the clinical criteria determining the diagnosis between the very chronic forms of "seborrhoic inflammation" and "Parakeratosis variegata." Did he think that the superficial infiltration of the cutis in the latter condition could be recognised by clinical observation ?

Dr. PRINGLE said he thought it was probably an example of so-called "Parakeratosis variegata," but it was in such an early stage that one could not be certain. The microscopic appearances of the sections shown entirely confirmed the diagnosis of the exhibitor. While sympathising with the view of Dr. Whitfield as to the undesirability of unnecessarily overloading dermatological terminology, he agreed with some of his critics that the term "parakeratosis" could only be considered as suitable on the "*lucus a non lucendo*" principle. He much preferred Dr. Radcliffe-Crocker's name of "Lichen variegatus," the disease having close clinical resemblances to Lichen planus, for which it was so frequently mistaken; even the microscopic appearances had much in common with true lichen.

Dr. **Whitfield**, in reply, said he did not wish to further burden the already heavy nomenclature of dermatology. The train of symptoms which had been described under the name given was marked by the absence of parakeratosis and the presence of infiltration. He might have called it Unna's disease, but he preferred the name under which it appeared. It was extraordinarily retiform. At first he thought it was telangiectasis until he got a good light on it, and then it was found to consist of lichenoid papules, some above the skin and some below. That put out of court anything like superficial epidemic catarrh, and it left one with only Lichen planus as an alternative in addition to Parakeratosis variegata.

Dr. **Winkelreid Williams** showed a case of *keratosis of the finger* in a medical man who had a small patch of keratosis surrounding the pores of one finger resembling the porokeratosis reported by Mantoux from Brocq's clinic.*

Twenty years ago the finger was cut when the patient was dissecting. The cut healed by first intention, but one month later the skin around the scar became rough and some years after slightly verrucose. It had been treated by chemical caustic and by the X-rays. The latter removed the condition for a few months, but it had subsequently returned in the same arm and had persisted.

Dr. **Pringle** said that he agreed with Dr. Williams that the case was a "keratosis," but it was certainly not the disease first described by Mibelli as "parakeratosis."

OBITUARY.

JOSEPH FRANK PAYNE.

Born January 10th, 1840. Died November 16th, 1910.

All of us who are interested in the study of diseases of the skin will feel sincere sorrow at the loss of our old friend Dr. Payne, who was one of the original active supporters of this Journal.

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* *Brit. Journ. Derm.*, vol. xv, p. 209.

Dr. Payne, although an acknowledged authority on the problems of Dermatology, by no means centred all his interests on this fascinating study. He was a man of considerable intellectual attainments, a good scholar, an enthusiastic antiquarian, and a sound physician.

All his life he had been a great reader, and like many great readers, he became a true book-lover and a keen collector of literary treasures.

He was an extremely unassuming, modest man, but one who was always ready to impart to others some of his learning, which has been aptly described by one of his intimate friends as colossal.

By his researches the history of medicine has been richly endowed, and by his literary achievements he will earn the respect and honour of men for many generations to come. EDWARD STAINER.

CURRENT LITERATURE.

THE VALUE OF TRANSFUSION IN PELLAGRA. By J. WINTHROP and H. P. COLE. (*New Orleans Med. and Surg. Journ.*, August, 1910, p. 90.)

THE establishment of a specific therapy antedating the discovery of the causative agent of a disease is to be noted throughout medical literature. We have but to mention the introduction of quinine, as a specific for malaria, 250 years prior to Laveran's discovery of the malarial plasmodium, the empirical treatment of syphilis with mercury years before Schaudinn's finding of the *Spirochæte pallidum* or the successful employment of vaccination by Jenner against a disease whose cause is still theoretical.

From experimental and clinical studies the authors feel justified in proposing the following conclusions:

(1) Pellagra is an intoxication.

(2) The toxic principles of pellagra exist in the blood of pellagrins, and will produce pellagrous symptoms when transferred to other animals.

(3) Pellagrous serum exhibits definite precipitative, hæmolytic and antitoxic properties.

(4) An active immunity exists in cured pellagrins, and an immunity can be artificially produced in animals.

Their employment of transfusion in pellagra followed a series of laboratory experiments on blood transfusion in surgical shock in animals, and was undertaken with the idea of combating the severe anæmia noted in terminal pellagra cases, and perhaps of transferring specific anti-bodies.

The histories of twelve cases so far transfused are briefly cited in the paper, and these cases show that of twelve cases transfused, six died and six apparently recovered for periods of from five to twenty months. It must be considered that in these transfused cases every possible medicinal measure had been fully tried, and only a continued downward course finally impelled transfusion. A mortality of 50 per cent. in such cases the authors consider low. It may be noted that of the six fatal cases, three were evidently hopeless before transfusion. The seemingly remarkable results obtained in some cases have led them to attempt the operation in all cases, even though considered hopeless, and they believe that earlier employment of transfusion would yield decidedly better results, or at least furnish more reliable data on which to base an opinion as to the true value of transfusion.

The following conclusions are reached:

(1) A serum therapy will finally be established in pellagra. Until the perfection of this serum therapy transfusion may be offered to combat the existing anæmia, and possibly may be the means of transferring a degree of natural or acquired immunity.

(2) In certain selected cases, not benefited by medicinal agents, transfusion has been followed by immediate temporary and possibly permanent recovery.

J. L. B.

URTICARIA FACTITIA + KELOID. Dreuw. (*Monats. f. prakt. Derm.*, September 1st, 1910, p. 210.)

The case recorded is that of a young man, aged 25 years, who came under treatment for œdema of the prepuce. The œdema was said to have been present for a year, and to have resisted various local forms of treatment. He acknowledged having gonorrhœa seven times since 1900, Ulcus molle in 1908, and syphilis in 1902, and the Œdema preputii perstans was naturally ascribed to these diseases. In spite of cold compresses and local treatment the œdema diminished very slightly.

Urticaria factitia was present, and on the right angle of the jaw a keloid the size of a bean. Inquiry elicited that each coitus caused acute œdematous swelling of the prepuce and penis, which disappeared in one to two days. As the patient owned to coitus every week, and as the itching of the skin had been noticed for a year, it followed that he had had acute œdema of the prepuce about fifty times in the last year. This ought to suffice to account for the persistent œdema. A drawing is given of the condition of the penis after coitus, showing marked swelling. The inclination to form keloids was plainly evident from the fact that, everywhere in the gluteal region where a mercury injection was given, a small pin's-head keloidal swelling was formed, lasting three to four weeks and then gradually disappearing.

The question arose whether there was a connection between the angio-neurotic œdema and the keloidal formation. It seemed probable that for the formation of keloid a somewhat lengthy stimulation was working (whereas for the factitious urticaria a single stimulus was sufficient), in which the ferments generated during secretion and absorption were able to cause an alteration of the connective tissue in a man predisposed to keloid formation.

J. L. B.

ON THE QUESTION OF IMMUNITY AFTER INFECTION WITH RINGWORM. C. Bruhns and A. Alexander. (*Derm. Zeitschr.*, xvii, H. 10, p. 695.)

These writers, after a review of work previously done on this subject, with particular reference to that of Bloch, detail experiments of their own done upon guinea-pigs with the object of elucidating this problem. Bloch had infected a large number of guinea-pigs with three strains of fungus. Most of the animals he infected with a strain which he regarded as midway between a trichophyton and a favus; the greater part of the remainder he inoculated with *Trichophyton gipseum*, and a few with a *Trichophyton lanosum*. He found that after infection with one strain that the animals were immune both to a second inoculation with the same strain or even with another strain. These experiments are of great practical interest in view of the exceedingly frequent occurrence of infection with various sorts of ringworm, and the authors draw attention to the fact that but rarely does an individual become infected a second time although exposed again to infection. The present authors have done experiments with five different strains of fungi, two from a culture of *Trichophyton gipseum*, a *Microsporon villosum*, and two of Bloch's own strains (the favus-like fungus and one taken from a Kerion celsi), which Bloch was kind enough to present them with. There was no difficulty in getting a positive result when inoculating the guinea-pigs for the first time, and it was found that the hairs were affected by the fungus but a spontaneous cure was not long in taking place. They are not able fully to confirm Bloch's results, for while Bloch found that in every case the animal was immune to a second inoculation, only in about three quarters of their cases was the second inoculation unsuccessful. They also were able to do an experiment with a patient who had been under treatment for Herpes tonsurans, and from whom a culture had been obtained. Some time after she had been cured of the original attack of ringworm she came under treatment for another complaint, and the opportunity was taken to see if she was still susceptible to infection with the culture, which was inoculated on her arms. A positive result was obtained both on the site of the former eruption and upon the arm which was unaffected by the original eruption, thus proving that neither a general nor a local immunity had been established. The authors ascribe the differences in the results obtained by Bloch and themselves to the differences in the lesions from which they obtained their material. Bloch worked with types of fungi which caused deep-seated changes, while they only used fungi from cases where the lesion was confined to the surface. They quote the observation of Jadassohn that a patient never suffers from a second infection after an attack of deep-seated ringworm, even although he may have the opportunity of contracting the infection for a second time, as for example in the course of attending to cattle. The explanation suggested is that when the lesions penetrate deeply anti-bodies are thrown out in greater quantities than when there is a mere superficial lesion. An analogous observation is that of Plato, who compared the action of an emulsion of trichophytin prepared from a deep-seated trichophytic lesion with the action of tuberculin on a tuberculous subject. He found that in such a case the injection of trichophytin was followed by a general reaction with rise of temperature, joint and limb pains, and a local reaction of a more or less pronounced character. In patients who only suffered from a superficial lesion this reaction did not take place. Finally, the authors conclude that after infection with a fungus such a condition may arise (in which the inflammatory infiltration appears to play the principal part) that the cells of the organism are so affected that a complete immunity against a new infection with a trichophyton may be brought about.

H. D.

SOME CLINICAL ASPECTS OF MYCETOMA; AN UNUSUAL FORM OF CALLOSITY COMPLICATING IT. A. HOOTON.

(*Philippine Journ. of Sci.*, July, 1910, p. 215.)

DURING the past two years twenty-six cases of mycetoma have come under the observation of the writer, which have occurred in the Province of Kathiawar, on the West Coast of India. In several of these cases the mycetoma was complicated by a thickening of the sole of the foot by multiple callosities, probably due to mixed infection with pus cocci, which have gained entrance through abrasions from thorns. In two cases secondary deposits in the lymphatic glands were present. These rarely occur, but when they do it is an indication that the disease is spreading very rapidly. In one case a recurrence took place at the site of amputation, but as a rule surgical extirpation of the fungus gave satisfactory results. The paper is illustrated by a series of photographs.

J. M. H. M.

REVIEWS.

MANUAL OF DERMATOLOGY.*

THIS is a Spanish text-book of the histology, physiology, and pathology of the skin and the general therapeutics of skin-diseases. Not only are these subjects dealt with in a general way, but the most painstaking care has been taken with every division of the subject, and the chapter on "General Cutaneous Histopathology" alone covers seventy-six pages. The illustrations of microscopic specimens are numerous, and, when in black and white, good, but the coloured ones are unquestionably too diagrammatic.

The chapter on "General Therapeutics" is admirable in its way, and includes dermatological pharmaco-therapy, pharmaco-technique, and physio-therapy. The section of physio-therapy is admirable, and comprises a description of dermo-therapeutic massage, photo-therapy, helio-therapy, and every variety of electro-therapy.

The subject of Röntgen-therapy is very completely dealt with, and extends to 200 pages, reflecting great credit on the authors. In addition, there is a remarkably comprehensive and elaborate classification of skin-diseases, which will well bear close study. We congratulate Dr. Peyri on the success which his book has already achieved.

J. L. B.

* *Manual de Dermatologia General.* By Dr. J. PEYRI y Rocamora. With the collaboration in the chapters on Röntgen-therapy of Drs. COMAS and PRIÓ. Barcelona, 1910: Espasa é Hijos. Pp. 716.

Treatise on Diseases of the Skin.†

The sixth edition of this well-known text-book is only separated from the first edition by a matter of eight years, and the success of the book, although it owes, of course, much to its intrinsic merit, also owes something to the fact that it is always kept up to date. The present edition not only contains twenty-five new illustrations, of the same excellent quality as the old, but also fresh articles on such subjects as sporotrichosis, granuloma annulare, ulcerating granuloma of the pudenda, and tropical ulcers. From the article on pellagra, which has been re-written, it appears that the disease has only been known in America during the last few years, and made its appearance in the Southern States, and especially in institutions for the insane. As to the true and essential cause of the disease, the author does not care to make a definite statement, but does not consider that a protozoal cause is less probable than that the disease is caused by the *Bacterium maidis.* Acrodynia is also dealt with quite shortly, without any absolute conclusion being reached. There is an interesting new article on "Grain-mite Dermatitis" and its connection with the so-called "Prairie-itch" of several years ago, and excellent pictures are given of the disease and its insect-cause. All through the book, indeed, we turn to the illustrations with the greatest of pleasure and satisfaction; they alone would ensure a large circulation for the book, and of the quality of the letterpress we need say nothing. The book has a great reputation, and deserves it.

J. L. B.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

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